Rivers and worth
a study on the political ecology of the energy frontier in south-central Chile

Andueza Justiniano, Luis Miguel

Awarding institution:
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Luis Miguel Andueza Justiniano

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Abstract

In Chile, the south-central Andean region has recently emerged in the national geographies of energy as one harbouring a huge potential for new modalities of hydropower generation. Small hydropower projects at different stages of development now proliferate on most of the region's watersheds. This process has given rise to an equal proliferation of territorial struggles that circulate at different scales, from the strictly local, to the national. The socio-historical and cultural relations in which Andean waterscapes are embedded thus appear as being at the centre of the current dynamics of enclosure and struggle through which the energy frontier is unfolding in Chile.

This thesis presents an ethnographic investigation of the struggles emergent from the clashing layers of value, meaning, and practice in which these landscapes are implicated. In particular, it analyses the conflict-ridden relation between the shifting geographies of extraction and rent expressed in the expansion of hydropower infrastructure—and enabled by the commodification of water rights—and the forms of value, commonality, and difference emergent from the historical and socio-territorial constitution of Mapuche and *campesino* communities in the locality of Huife, and the ways in which these are entangled with the local lands and waterscapes.

To approach this, the thesis will develop a theoretical argument exploring the ecological dimensions of Marx's theory of value, with particular attention paid to the category of use-value and the notion of social form. It will then analyse the recent transformations of the energy frontier and the political economic processes behind its dynamics. In doing do, the thesis explores in detail the different social fields in which local rivers and territorialities are implicated, detailing how these produce the vernacular values that mediate socio-ecological reproduction at the local level—social fields and values from which oppositional forces draw their momentum, and in relation to which current infrastructural transformations acquire their local meaning.

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To Emilio and Rubí, with infinite gratitude.

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This study would have not been possible without the hospitality, generosity, openness, and trust from the people in Huife and Llanclail. I am particularly indebted to Luis Hernán Ibarra, Denisse Albornoz, and the Millaqueo-Millahual community. In their histories, struggles, and dreams is the heart of the *cordillera* and its valleys.

My family back in Chile, Emma, Luis, and Max, for their steadfast presence over the years and the distance, and throughout this thesis. This would not have been possible without their love and material support whenever I have needed it.

My gratitude goes to Alex Loftus at KCL, and to his insight, guidance, humility, kindness, and friendship—all qualities that have made me retain faith in academia as a space where critical thought and humanised relations remain possible. It would be impossible for me to imagine a better supervisor for this study. I also thank Nicholas De Genova, who offered important guidance, constructive criticism, and wise advice during the first years of this study.

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Finally, but most importantly, this study would not have been possible without the patience, company, laughter, sacrifice, and love of Rubí and Emilio. To them this work is dedicated.

List of acronyms

- CONADI: *Corporación Nacional de Desarrollo Indígena*, National Corporation for Indigenous Development.
- DIA: *Declaración de Impacto Ambiental*, Environmental Impact Statement.
- DGA: *Dirección General de Aguas*, General Water Directorate.
- EIA: *Estudio de Impacto Ambiental*, Environmental Impact Study.
- SEA: *Servicio de Evaluación Ambiental*, Environmental Assessment Service.
- SEIA: *Sistema de Evaluación de Impacto Ambiental*, Environmental Impact Assessment Service.
- Seremi: *Secretaría Regional Ministerial*, Regional Ministerial Secretariat.
- Prodesal: *Programa de Desarrollo Local*, Local Development Program.

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1. Introduction

Crisis is perhaps the word that best describes the times in which this dissertation was written, and certainly the cultural momentum animating much of the discursive and academic field it navigates—ie. that of the political ecology of a planet being transformed beyond recognition by the compulsions of globalised capital. Here I speak of 'crisis' not as a clearly politically and analytically contained aspect of reality, but rather as a sort of pervading cultural atmosphere mediating society's relation to both its ecological conditions and its sense of future. A condition in which the mounting consequences of the history of capitalist modernity overflow their distinct 'economic', 'political', 'environmental', or 'social' characters, and go on to saturate society's horizons, assembled on the sort of monstrous scales reserved for eschatological myth. 'Crisis' as a condition in which the sense of futurity that must always underpin the reproduction of the any given social order, the cultural experience of future plausibility (let alone promise) that legitimate the way things stand, erodes at a rate as alarming as that suffered by the web of life that continue to sustain us. If the turn of century was defined by the commonplace maxim, attributed to Frederic Jameson, that 'it is easier to imagine the end of the world than the end of capitalism', these days what demands a heroic feat of the imagination is the thought of the long-term *continuation* of the capitalist world-system as we have hitherto known it—that is, as a system driven by the vertiginous compounding of growth upon growth, the sustaining of which presently translates into the practice of literally moving mountains and/or throwing millions into debt peonage just to make way for increasingly elusive spaces of profitability. And even then, this imagined capitalist future is one that only those equipped with the thickest of ideological spectacles could manage to convey in any genre other than the dystopian. Indeed, even for those at the helm of the global capitalist bureaucracy, like head of the IMF, Christine Lagarde, the destabilised climate system that capitalism has bequeathed upon us makes up for a future which, in her estimation, is "quite frankly, scary" (Lagarde 2015:64).

This condition, in which the horizons of capitalist modernity become increasingly unstable, can easily reduce us to the position of rabbits caught in the headlights of looming catastrophe. Yet it is fundamental that we recognise these images of the future for what they are: *aspects of the present*, real potentials and stories, the roots of which must be traced to the political forces that rule over a situation that has ceased to produce future visions of itself that can simultaneously command generalised credibility and desirability—in other words, to a protracted organic crisis of liberal capitalist hegemony rooted in its unfolding as part of natural history (Wainwright & Mann 2018). As Wainwright and Mann (2018:14) have recently written:

"Only an analysis of the political forces that produce the potentiality of collapse, and the ways in which those forces might themselves be transformed by that potentiality, will lead to an understanding of emerging 'relations of force'".

These transformations are indeed underway, and these relations of force taking shape. This thesis will examine an instance of this ongoing process, as expressed in the shifting geographies of energy in Chile and the field of struggles these shifts delineate. I will focus in particularly on its vernacular oppositional forces, logics, and values, and the way these take part in the evolving and multiscalar 'relations of force' that will in the end come to shape the concrete unfolding of whatever the future holds.

It is important in this sense to underscore the fact that there is no such thing as a 'universal' ecological crisis and nor are there universal strategies to deal with it, as the case presented in this study will show. What 'adaptation' means on a transforming planet is and will continue to be a battlefield. Our understanding of the ongoing planetary transformations must consider how these, and their concomitant strategies of adaptation, look very different depending on the standpoint and the social logics and forms of value these transformations articulate with. A political decision is then posited at the outset: from whose concerns and values are we going to regard this historical problem? Whose concerns are to be addressed when thinking about how to navigate the coming storm, whose utopia will lead the way? Those posited by the imperative of sustaining the very relations that have brought the storm about? Or those of whom have been, once and again throughout the history of capitalism, displaced, cast aside, in processes so often draped in the honourable robes of the 'common good'? So far, there is no clear nor unified utopia on the latter side, only fragments—but fragments that express the complicated, contradictory, and real dreams that will continue to compel socio-ecological reproduction onwards. The political composition of these fragments is a crucial task in our current times, one to which militant inquiry should contribute.

The ecological crisis through capital

How does the ecological crisis appear from the standpoint of the capitalist world-system? Jason Moore (2015) argues that for capital, the ecological crisis of this century appears above all as a crisis of 'underproduction' of the basic elements for accumulation. For Moore, cycles of accumulation over the *longue durée* are structurally underpinned by the historical production of an 'ecological surplus'—ie. the political and technical capacities for free or cheap

appropriation of human and extra-human work/energy on a scale proportional to the aggregate mass of capital to be valorised. The greater the mass of capital, the greater the amounts of unpaid work/energy it must command to turn over a profit. This structural socio-ecological determination of the logic of valorisation is what lies behind the geographic strategy of the *frontier* this dissertation deals with: as Moore writes, "not only does capitalism have frontiers; it is a frontier civilization" (Moore 2014). The epochal problem faced by capital in the twenty first century is, in Moore's estimation, the fact that frontiers on the scale required to set off a new historical cycle of accumulation are simply not there, and their production, although perhaps conceivable, seems highly unlikely.

In this sense, in a context in which ecological surpluses underpinning world accumulation continue to dwindle relative to the mass of capital to valorise, the global geographies of ground-rent play an increasingly important structural role as fields of valorisation and financial flows (Bartra 2006): as raw materials appreciate, previously hopelessly unprofitable corners of the planet appear as untapped sites of new potential rents. For those regions such as Chile and most of South America, whose role in the international division of labour is that of producers of raw materials for the world market, this condition has entailed far-reaching implications. These are expressed in the various political struggles and antagonism that have characterised the region over the past few decades, linked to what Maristella Svampa (2012) has called the 'commodity consensus' and the extractive economy that delineates the field in which regional hegemonic disputes play out. For the Mexican agrarian scholar Armando Bartra (2006) the increased relative importance of the geographies of ground-rent for accumulation under conditions of ecological crisis is thus expressed in the concrete form of new rounds of primitive accumulation—or accumulation by dispossession (Harvey 2003)—, in the toxic saturation of ever more landscapes, and in the general inflicting of overbearing pressures upon socio-ecological reproduction in the places extractive operations are deployed. In other words, the frontier appears as generalised geographic condition, unfolding through what the Zapatistas have called a "renewed war of conquest" on territories that, if in past geographies of capital had been cast aside as spaces of oblivion, now appear as spaces pregnant with potential capitalist wealth (Comisión Sexta 2018)[1]. This sort of ecological 'runaway effect' within the logic

[1] "Here we use the simile of the native peoples because for a long time, in the previous stage of capitalist development, the native peoples were forgotten. Before we used the example of the indigenous infants who were called "the unborn" because they came into the world and left it without anyone ever noticing. Those "unborn" lived here in these areas, in these very mountains for example, which at that time didn't interest anyone. The good lands (the "flatlands" we call them) were occupied by plantations, by large landowners who expelled the indigenous to the mountains. Now it turns out

of accumulation itself—in which ecological crises compel an intensification, rather than a moderation, of capital's voracity—can perhaps be most clearly exemplified by the ongoing geopolitical scramble for the spaces of profitability that the prospect of an ice-free Arctic offers for none other than the fossil capital that is warming the planet.

These structural tendencies in the way ecological crises unfold through the logic of accumulation only delineate a general field of contradictions in which a range of elite political-ecological projects, linked to different sectors of capital, are currently in dispute. So far, particularly in relation to climate change and energy, ruling elites have appeared to respond to the situation in two general modalities: that of pursuing the liberal utopia of 'green capitalist growth', and that of the (rising) quasi-nihilistic reaction represented by the likes of Donald Trump and Jair Bolsonaro. The former project, which until recently seemed to enjoy a relatively solid hegemony, attempts to reassemble the basic components of the liberal capitalist order—markets, private property, the nation-state, the citizen—in such a way as to address what is normally understood to be "the greatest market failure the world has ever seen" (Stern et al. 2006), a feat that would require the consolidation of novel forms of planetary sovereignty (see Wainwright & Mann 2018). It attempts to not only break the historical trajectory towards a warming planet, but indeed to make this break profitable. Nevertheless, after decades of conferences, market innovations, and political declamations of good will, this attempt at reassembling the terms of the capitalist order—overdetermined as it is by the structural dynamics described above—has alarmingly little to show for. Against the intensifying backdrop of international scientific bodies' wailing alarms, emissions have kept their inexorable rise, as the increase of investment in renewable energy is outpaced by growth in demand, 81% of which remains covered by fossil fuels—a share that has remained stable over the past three decades (IEA 2018b). The effects of this consistent failure of the neoliberal centre to bring 'green growth' into being compound politically in the form of a narrowing space for the sort of incrementalist political action that underpins the stability of neoliberal hegemony. The political implications of the scientific consensus these elites ostensibly respect grow radical by the day, and thus harder to be articulated through the modalities of political action afforded by neoliberal hegemony[2]—something expressed rather bluntly in the IPCC's latest report (IPCC 2018) in which it is stated

that these mountains are full of wealth, commodities that capital now wants and so there is nowhere for the native peoples to go".

[2] The very latest example of the catastrophic inadequacy of neoliberal prescriptions to combat climate change—and their potential to develop into a full-blown crisis of hegemony—is of course that of the *gilets jaunes* movement, sparked by the fuel tax introduced by Emmanuel Macron's government in the context of their climate policies; which, as is the case to all neoliberal responses to capitalist crises, would have had the working classes shoulder the costs of mitigation.

that "rapid, far-reaching and unprecedented changes in all aspects of society" are necessary to retain some measure of climate stability. In this context, it is worth asking what, if any, will be the role played by the neoliberal centre's hitherto hegemonic framing of climate politics over the coming decades. One is to expect serious modifications in this field, perhaps ominously foreshadowed by the recent tendency of sectors of capital to simply ride the wave of reaction and altogether throw the 'green capitalist' utopia overboard.

The recent shifts in Chilean energy frontiers that this dissertation examines are part of this multi-scalar process of contested adaptation of world accumulation to an uncertain future, and perhaps an exemplary instance of the 'green growth' ideology as a material force in action. Indeed, this has been a process hailed by former US Secretary of Energy Ernest Moniz as a "global example of the road to energy transition" (Moniz 2018:11), celebrated by Al Gore as an "inspiration"[3], and is explicitly framed by the Chilean administration responsible for it as part of an effort to achieve a green(er) growth. However, little attention has been placed on the political economic motivations that have compelled these transformations, and, above all, to the struggles that continue to shape where and how it takes place. To understand this latter aspect, we must attend to the concrete stories through which this process reshapes human lives, and socio-ecological spaces.

The ecological crises through its human stories

> [Use-value] is an implicit conception that sustains the entire
> edifice of the critique of political economy.
>
> Bolívar Echeverría, *'Use-value': Ontology and semiotics*

The way in which these planetary transformations happen *through* the totality of the capitalist world-system can have a way of skewing our understanding and fixing our attention on a scale in which human stories—the cultural sites in which these transformations ultimately find their substantive meaning—become drowned under the weight of what Arundhati Roy (1999) once called the "Fascist Maths" of global capital's energy voracity.

Indeed, as I will explain further below, much of the motivation behind this dissertation has to do with how the processes it studies fit within my own story and experience of the massive ecological transformations that have, in the space of three decades, changed the face

[3] See Gore's recent documentary "An Inconvenient Sequel" (Cohen & Shenk 2017).

of the region in which this study takes place. I distinctly recall as a child wondering at the seemingly infinite diversity and sheer quantity of insects that cluttered the outside of my room's windows at night, and at the colourful variety of grasshoppers that jumped out of the way as one stepped across the fields near my family's house in the Liucura River valley, some miles downriver of where my fieldwork took place. I also recall occasionally running into the then already rare native fishes that populated the Liucura River. Last time I was there, for this thesis fieldwork, and after some years of not being in the area, I was alarmed and deeply unsettled to see almost no grasshoppers in the very same fields, nor anywhere near the same amount of insects bumping outside lit windows. I was also very surprised to see shoals of literally hundreds of giant Chinook salmon travelling up the river to lay their eggs, no other fish in sight. These species I had never seen, and as I learned, had started showing up just a few years back. Escaped from the chemically-saturated salmon farms that have proliferated throughout the southern parts of the country during the neoliberal period, this species has gone on to colonise river basins across the country, this one included (Correa & Gross 2008). Although by definition anecdotal, these sort of stories are by no means isolated—far from it. They reflect processes being reported on a world-scale—like mass arthropod extinction, and generalised defaunation (see Hallmann et al. 2017; Lister & Garcia 2018)—the rapidity and scale of which have no precedent on human temporal scales, and whose consequences are yet to be seen. I can only speculate as to what kind of local ecological transformations these facts express, or what sort of effects they will have. I can say however, that these transformations take place in a world to which I can only relate through thick layers of affect and value; a value relation which, in the midst of the capitalist storm, becomes inextricably tied to a generalised and proportional sense of loss[4]. A sense of loss that, as Naomi Klein (2015) reminds us, increasingly mediates our general social and cultural relation to nature.

The point of this is to illustrate that processes such as mass extinction, climatic destabilisation, commodification, the uncertainty of future socio-ecological conditions, are always necessarily anchored in concrete human experience, and acquire their definite meanings in relation to particular cultural contexts and the emergent vernacular values that symbolically and practically mediate socio-ecological relations. This field of meaning and practice is fundamental to understand the struggles through which ongoing transformations in energy

[4] This relation between positivity ('values') and negativity (loss) is important. The 'values' that mediate our relation to nature are multiple by definition, but the possibility of their political unity is premised on the universal character of their negation by the rule of capital. See Holloway 2011.

geographies are taking place, and the contested meaning and paths of 'adaptation' more generally. Understanding this realm is one of the main areas of concern of this thesis.

Nevertheless, these fields of meaning and value that mediate the qualitative relation to nature do not exist in a vacuum, they exist through their subsumption under the rule of a globally articulated capitalist value regime. In this sense, and as will be explored in detail in this study's theoretical framework (Chapter 2), the reality that this dissertation approaches must be understood as the always conflictual geography of the value/use-value dialectic that structures the socio-ecological constitution of the capitalist world. In the case of Chilean energy geographies, this contradiction dialectically unfolds as a geography of struggle, in which landscapes are torn between the operations of extractive valorisation, and the multiple geographies of a use-value dimension that produce socio-ecological spaces as places of meaning, identity, history, and futurity. This does not mean that these latter elements are guaranteed to be spontaneously oppositional—indeed they provide the always unstable cultural grounds for the articulation of both domination and resistance. Nevertheless, these are the grounds for any *possible* political composition of antagonism around particular demands, organisational forms, or identities.

Justification, aims, and research questions

These are the geographies of struggle that this thesis seeks to understand. In the context of the rapid and intensifying tranformations that currently characterise the energy frontier in Chile, this thesis aims to contribute to a clearer understanding of the widespread conflictivity through which this frontier unfolds, the clashing social logics and conceptions of the world that dispute these spaces, and the kinds of openings and contradictions that emerge in the process. Given the nature of the Chilean 'energy transtion'—characterised by the deployment novel forms of post-political governance over a field of hierarchies and antagonisms the structure of which remains firmly in place, and indeed in command of official conceptions of energy futures (see Chapter 3)—the subject matter of this thesis holds general relevance for other national contexts in which energy transformations are hegemonized by the adaptative interests of the capitalist class; ie., where energy futures remain constrained by the imperatives of expanded accumulation, and where changes in energy infrastructure do not so much reflect transformations in dominant social relations, as they do strategies for their continued reproduction.

Making sense of these contested geographies thus calls for an understanding of the different and overlapping social arenas in which the different values mediating the relation to nature emerge, arenas in which socio-ecological practices negotiate their meanings. This requires both the exploration of the regime of value that drives the current shifting geographies of energy—that of a globally defined law of value politically articulated at the national scale through the neoliberalisation process—and the multiple social arenas of value and meaning that mediate local territorialities and their reproduction. In this sense this thesis will also seek to contribute and develop a novel approach to the understanding of the vernacular forms of value and meaning that mediate the relation to nature at the frontier, the ways in which they negotiate and dispute their place in these transformations, and how they become politically mobilized in the context of a shifting energy frontier.

The main general questions this study asks are: what are the social relations that lie behind the recent shifts of the energy frontier in Chile, and what kind of relations are these shifts producing on these spaces? What are the values and geographies that constitute themselves as resistance to these changes? What sort of social relations are these values imbricated with? How do these different forms of value articulate and/or clash, and how are they expressed in local relations to the landscape? What kind of light might these movements and struggles shed upon current debates over 'energy transitions'?

These questions are then developed through more specific ones, which will be addressed through the different chapters of this thesis: How do local values relate to historical consciousness? How does this relate to the landscape, and how is it mobilised in the present conjuncture? What are the main characteristics of local livelihood strategies, social axes of differentiation, and identities? How do they relate to local history and geography, and how does the Llancalil hydropower project articulate with these aspects? How has the process of enclosure and commodification of the waterscape[5] been locally experienced, and how does it relate to vernacular relations to water? What are the main actors involved in the present conflict, and what sort of contradictions does the community face during the process of articulating their opposition?

[5] The term 'waterscape', or water landscape, is a concept that will be used often throughout this thesis and refers to the springs, rivers, and other flows and bodies of water that exist in the area of study, and is understood as co-constituted through its relationship to human communities, their reproduction, and forms of power. See Swyngedouw 2015.

Context and area of study

The area this study is concerned with is located in the Andean mountain valleys—places known in Chile as 'the *cordillera*'—of the Araucanía region, in south-central Chile. This region is at the heart of the greater *Wallmapu*, the ancestral homeland of the Mapuche people that once expanded across what today is Chile and Argentina, and was incorporated into both nation-states after military campaigns of occupation that took place during the last third of the 19th century (see Chapter 4). The *cordillera* in this region also appears as one of the strategic areas of hydropower potential in the Chilean Energy Ministry's Long Term Strategic Planning document originally published in 2017 (see Figure 1 and Chapter 3). These two geographical layers that converge in the *cordillera*—that of being a repository of historical memory and identity for the Mapuche people, and one of the strategic areas of potential energy generation identified by state planning—constitute one of the main sources of the contemporary conflicts and struggles that characterise the region. The history and political conditions that propel the contested expansion of this frontier will be seen in more detail in Chapter 3.

The area of study roughly corresponds to the territory represented at the municipal level by the "Neighbours' Council Nº 10"[6]. This is an area loosely known locally as 'Huife', which encompasses the mountain valleys that make up the Liucura river's headwaters. This river is part of the Trancura river sub-basin that feeds the nearby Villarrica lake, from which the Toltén river then flows. Throughout its path towards the Pacific Ocean, the Toltén receives most of the water in the southern half of the Araucanía region, known as the Cautín province. The area of study encompasses the localities around the rivers and streams that converge in the Liucura river; these are lower and upper Huife, Llancalil, and Papal. Upper Huife and Lancalil both designate the two up-river valleys through which the Liucura and Llancalil river flow, respectively. These converge into a single river and valley in lower Huife, which is overlooked by the few scattered houses on the foothills on the south side of the valley, an area known as Papal. These valleys are located in the easternmost part of the Municipality of Pucón, in turn located on the south-eastern limits of the Araucanía region, in south-central Chile, and roughly 100 km south-east of the regional capital, Temuco.

[6] *Junta de Vecinos Nº 10 de Huife*. In Chile, Neighbours' Councils are one of the main institutions that mediate at the municipal level the relations between local communities and the state.

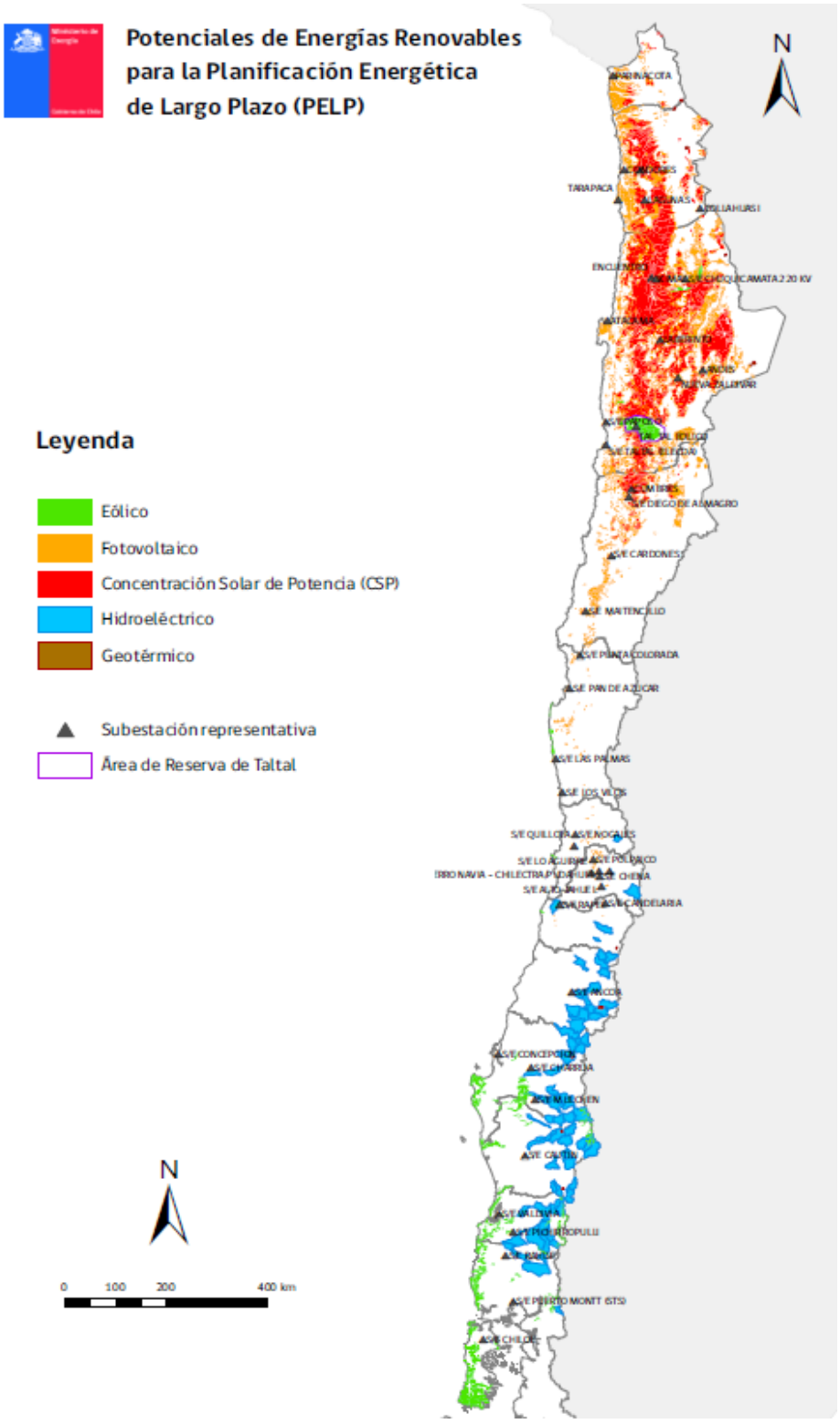

Figure 1. Map of 'Renewable Energy Potentials" as defined by Energy Ministry (Ministerio de Energía 2018). It accurately represents the contemporary energy frontier in Chile. The blue areas are the sub-basins that hold particularly significant hydropower potential. All of these are located in the south-central region of the country, and most on the Wallmapu, the ancestral Mapuche homeland.

Source: Ministerio de Energía, PELP, 2018:39

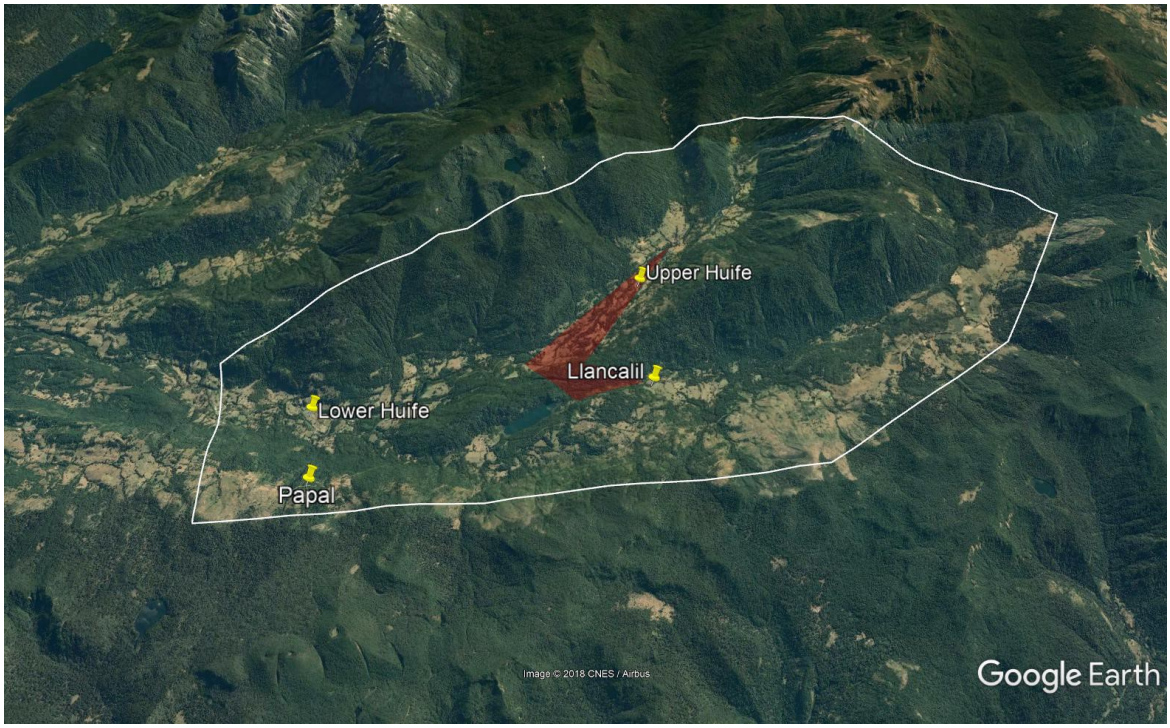

Figure 2. Google Earth image outlining the area in which most of my fieldwork took place, showing its main localities and, highlighted in red, the approximate area where the projected "Llancalil" hydropower plant would be built. December 2018.

Figure 3. Google Earth image showing the area of study in its immediate regional context, and signaling some of the main nearby towns and localities referenced throughout this thesis. December 2018

Figure 4. Picture of the Huife Valley, taken by the author from Papal, facing north-east. April 2016.

The expansion of the hydropower frontier into this part of the *cordillera* is relatively recent. Melipeuco, the Municipality immediately north of Pucón, has had projects at different stages of development for several years now, of which three are already operational, three are under construction, and one more is still under evaluation (see SEREMI-Araucanía 2017). Pucón and Curarrehue—the adjacent municipality in the *cordillera*—had remained relatively isolated from these developments. Nevertheless, over the last few years, and expressing the broader shifts occurring in energy policy and politics in the country, a new proliferation of run-of-the-river projects (*centrales de pasada*, as they are known in Chile) and energy-related water rights claims has occurred, not only in these municipalities, but indeed north and south of the *cordillera*, across the areas highlighted in the map shown in Figure 1. Since around 2014 the hydropower frontier has effectively begun encroaching upon this area more strongly, generating great uncertainty and conflict among those who inhabit these territories. Indeed, the case of the Añihuerraqui project in Curarrehue (point 5 in the Figure 5) has been especially notorious, as it directly affects Mapuche ceremonial grounds, and the results of the consultation process with the affected community were disregarded (Castro Garrido et al. 2016). The case of Huife and the Llancalil project has received relatively less attention, as it has not yet been approved.

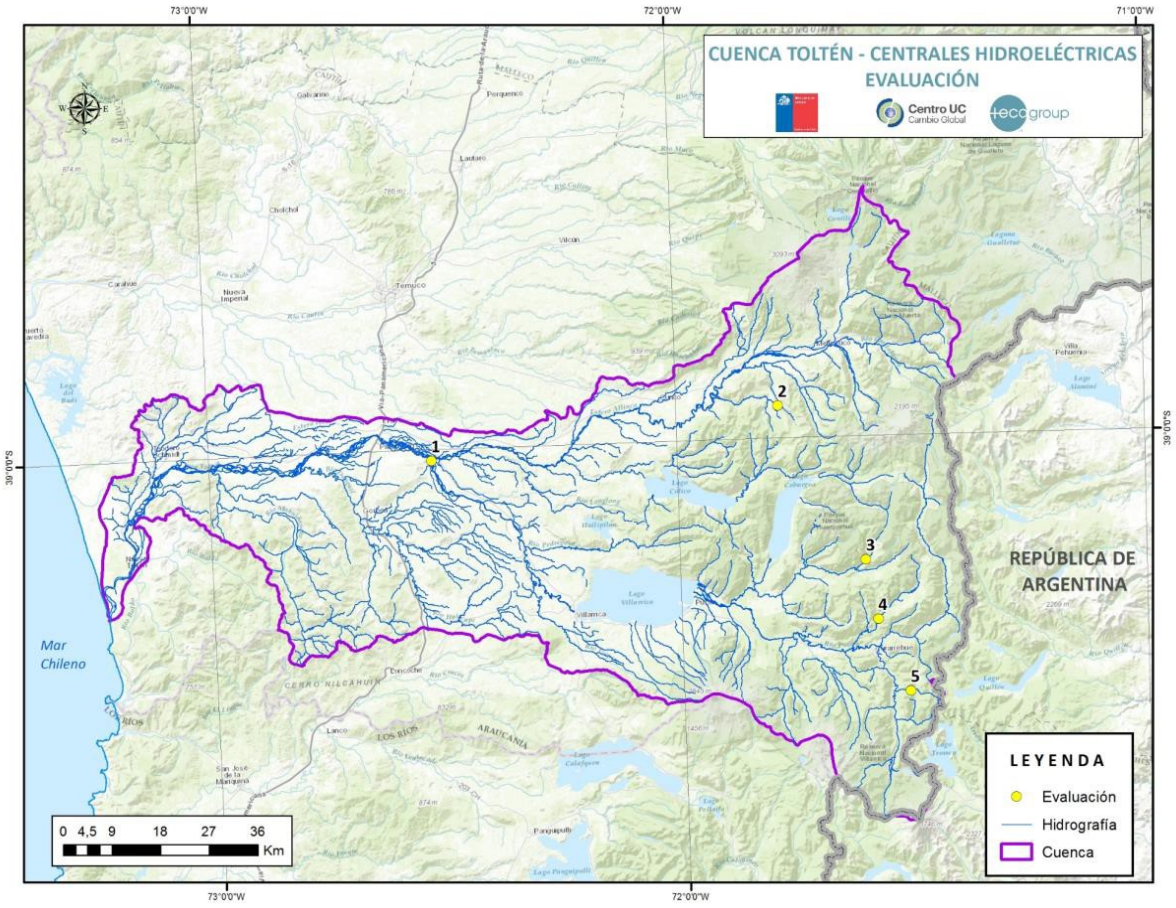

Figure 5. Map showing hydropower projects currently under assessment in the Toltén basin. Number 3 corresponds to the Llancalil project in the Huife area. Source: Ministerio de Energía 2016:110

Huife

The affected community is in the case of Huife quite diverse, in the sense that it is made up of families from Chilean, Mapuche, and German origins, with many families incorporating some or all of these different elements in their identities. Somewhere around 30 families live in the area of study, although, as explained in more detail in Chapter 5, this is a difficult number to pin down due to the fact that many families tend to inhabit the territory intermittently, especially those of the younger generations which live and work in nearby towns. The importance of the tourist economy is also a factor, as it gives an important seasonal rhythm to work and economic activity in general in the valley. For these reasons, most, though not all, of the permanent residents are now the members of the older generations. This process of ageing in the resident population has intensified as the Municipality has tended to close small rural schools and concentrate them in the more densely populated rural areas. The few children that live permanently in the area must travel to Pichares to attend school.

As I will explain in Chapter 5, the tourist economy of the Municipality has also ensured a growing presence of people from urban middle-class origins, who have bought land in the area, inhabiting it seasonally. For the most part, these are lands that have been bought as vacation/leisure plots, although in the lower parts of the valley there are increasing numbers of more business-oriented land acquisitions, normally revolving around services for tourists, and real estate investment (see Chapter 5).

There are three Mapuche communities[7] in the area. One is the Millaqueo Millahual community in Lower Huife, with whom I worked more closely. This community occupies the north bank of the Liucura River, and is made up of the extended Millaqueo family. It has also been at the forefront of the opposition to the hydropower project. Immediately down river there is the Nahuelan Neculan community. Both of these communities—each consisting of one extended family—were registered as such in the early 2000s and were originally to be constituted as one community, but finally decided to do it separately.

The other community has its lands in Llancalil, and arrived relatively recently. This is the "Cariman Sánchez y Gonzalo Marín" community, which in 2012 had acquired lands on the Llancalil valley through the mediation of the CONADI[8] land fund. The community is made up of 74 families originally from Huilo, Freire province, in the coastal part of the region. Before acquiring these lands, the community had been involved in a very complex conflict in which the CONADI had given their ancestral lands to another Mapuche community, giving way to a series of inter-community conflicts, and land seizures. As a way to solve the conflict, the CONADI bought land in the Llancalil valley for the community. Although no members of the community live permanently in Llancalil, the place was being visited frequently by community leaders and members while I was there. They had the plan of developing treks for tourists, and during the summer I was there they were building two cabins with that purpose in mind. This community's lands are located very close upriver to where the water would be extracted for the project, and its leaders, who had many regional connections and much experience, were playing an important role in the opposition during the time I was there.

In fieldwork, I focused my attention and interviews on permanent residents, or those that lived nearby. This was, of course, down to practical reasons, but also because I wanted to

[7] 'Community' is in this case functions mainly, though not only, as a legal/political form of mediation between the state and those the state recognises as Mapuche. See Chapter 5.
[8] The CONADI, or National Corporation for Indigenous Development, created in 1993, following the Indigenous Law of the same year, as the main state agency in charge of indigenous issues in Chile, among it resolving land claims, as in this case.

understand the historical background in relation to which these lands acquire their local values, and meanings, as these historical layers of the valleys were very visibly mobilised in local discourses of opposition. This mostly meant talking with the lower Huife Mapuche families, the Chilean campesino families, and the descendants from German settler families still living in the area or nearby. Although I talked with the other groups described above, most of my arguments throughout this dissertation are based upon my interviews with this sector of the local residents.

The Llancalil hydropower project[9]

The Llancalil project has gone through various phases. In the Liucura valley I was told there had been talk of a project a few years back, in Lefincul, some miles downriver from Huife, but did not get admitted for assessment. After this, there was the first try by *Inversiones Huife Ltd*—the company behind the project—to submit for approval a first version of the current project, under the name '*Central Hidroelectrica Llancalil*'. This project was not accepted for assessment, so it was redesigned and submitted as '*Central Hidroeléctrica Llancalil (Reingreso)*'. This second proposal was the version of the project that was being assessed at the time of my fieldwork. After two rounds of observations, this second version of the project was ultimately withdrawn by the company on July 2017, only to reintroduce a new project now called *'Pequeña Central Hidroeléctrica Llancalil'* on April 2018. The latter is the project currently undergoing assessment, and is in all relevant aspects identical to the previous ones, but with an apparently improved 'Environmental Impact Statement' [DIA, *Declaración de Impacto Ambiental*][10].

The Llancalil project is a run-of-the-river hydropower plant; this is, a plant that does not imply a large reservoir, but instead redirects part of the river flow into tunnels, leads it towards the generation turbines, and then releases it back into the river course. In this case, the project would draw water from the Liucura River in Upper Huife, and the Llancalil River in Llancalil, and then redirect those waters for 3.3 and 1.2 kilometres respectively towards a machine room where the generation turbines will be installed. From there, the water would be released back into the Liucura River, approximately around the point where both valleys and rivers join, in the

[9] This section draws on information from the project's DIA (Inversiones Huife Ltda. 2018), available at http://seia.sea.gob.cl.

[10] According to Chilean Environmental legislation (Law 19300), the DIA is the company's statement on the potential social and environmental impacts of a project, and it has to show that the project complies with the regulations specified in the Environmental Law. If it does not, or if its impacts are more serious, it would have to submit an EIA, or an Environmental Impact *Study,* which has to be more thorough, and must also specify compensation measures to address the impacts.

upstream limits of lower Huife. The project would generate 6.9 MW of electricity for the national grid.

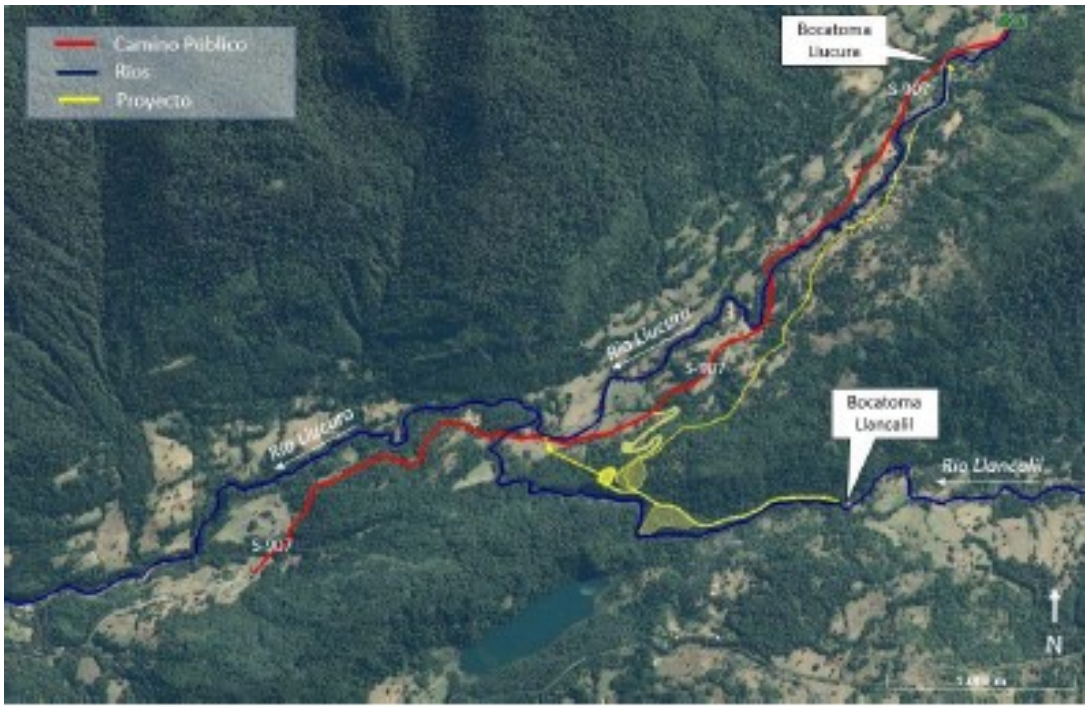

Figure 6. Map taken from the project's DIA (2018), showing in yellow the project's infrastructure (and in white the points at which water would be captured), in red the public road, and in blue the rivers.

The project amounts to an investment of 23 million US dollars, undertaken by Huife Inversiones ltda. In the webpage associated with the second version of the project[11], Huife Inversiones was described as an association between Wasserkraft Inversiones EIRL y Notus Energías Chile Ltda., both holding a 50 % share. The latter is a German company specialising in wind energy in Europe, but with recent investments in Latin America, particularly in Chile and Mexico. Wasserkraft, on the other hand is a company owned by an engineer of Swiss origins resident in Chile, who has previously been involved in the development of similar hydropower plants in the south-central region.

Methodology

My choice of this area and subject of study is not random, nor does it merely reflect a purely academic interest. Quite the contrary. As I mentioned before, my relationship to the Liucura River and its valleys stretches back to my early childhood, when each year I seasonally visited

[11] http://www.hidrollancalil.cl

land owned by my grandparents near the area of Pichares, some miles downriver from Huife. Many years have passed since, and yet much of what I consider formative in my early years took place by the Liucura River, its cold waters, and the life that this river nurtures and sustains. I am in this regard directly, if also very partially and intermittently, implicated in the complicated web of relations of class, race, and affect that constitute the human ecology of this river. In this sense, the critical intent that motivates the research presented here, far from stemming from a methodological detachment—from which a positivist understanding of knowledge might consider that reality could be assessed more truthfully—arises precisely from my implication in the dialectics at play in the movement of this socio-ecology: it is part of an ongoing critical-practical engagement not only with the processes behind the deployment of hydropower infrastructure upon this river, but also with my own position within the social structure that reproduces itself through these valley's ecologies.

In other words, this study departs from a Marxian conception of materialism: not from a reified understanding of reality as a simple *object* of cognition—and the concomitant idealist conception of knowledge this entails—but as an objective *process* the constitution (and cognition) of which is inextricably bound up with subjective human practice[12]. In so far as human practice is by definition meaningful and value-laden, there cannot be such a thing as a value-neutral social reality (see Chapter 2), nor a value-neutral cognitive engagement with it. In other words, we cannot approach reality *as if* the knowledge we produce is not directly implicated its stakes. As Nicholas De Genova puts it in relation to the study of migration:

> "[w]e are 'of' these connections because there is no 'outside' or analytical position beyond them. There is no neutral ground. The momentum of the struggle itself compels us, one way or the other, to 'take a side'. ... [The] researcher is a part of the field of struggle and a participant therein." (De Genova 2013:252).

This study thus makes no claim to 'neutrality', or detachment from the value-struggles it analyses. This not only because there is no such thing as a value-neutral standpoint in a socio-

[12] I am here paraphrasing Marx's famous first thesis on Feuerbach (Marx 2002) :
"The chief defect of all hitherto existing materialism – that of Feuerbach included – is that the thing, reality, sensuousness, is conceived only in the form of the object or of contemplation, but not as sensuous human activity, practice, not subjectively. Hence, in contradistinction to materialism, the active side was developed abstractly by idealism – which, of course, does not know real, sensuous activity as such.
Feuerbach wants sensuous objects, really distinct from the thought objects, but he does not conceive human activity itself as objective activity. … Hence he does not grasp the significance of "revolutionary", of "practical-critical", activity."

ecological world that is constituted *through* value-laden social practice and its concomitant struggles (De Angelis 2007; see Chapter 2), but also because striving for this mythical positionality is a pretence that can only act as a paralyzing methodological dart for critical and dialectical thought. This is, for that form of thought that not simply attends to how the social reality it is part of *is*—ie. positive knowledge of reality as reified 'object of contemplation'—but that, recognising reality as dialectical *process*, recognises itself as part of the practical and cognitive process of negation through which reality moves beyond itself (Holloway 2010a; Holloway 2010b). Thought, this is, that understands itself as "practical-critical activity" implicated in the constitution of the very world it is reflecting upon (cf. Loftus 2015).

In addition to its grounding on these philosophical foundations, the implicated and/or militant nature of this study was indeed a fundamental *condition of possibility* for its undertaking. As is commonly the case with many communities in the energy frontier—a context commonly characterised by steepely assymetrical power relations—people in Huife had a very clear understanding of what claims to 'neutrality' meant in the context they were facing, and thus had ample reason to mistrust inquisitive outsiders claiming such a position. By the time I showed up, the consultancy firm hired by the company behind the project had already carried out their studies on the potential social impacts of their project, concluding, unsurprisingly, that there would be none of significance. This had understandably made many local people upset, as in their minds they had made it very clear to the consultant anthropologists that they felt otherwise, and that they did not want the project on their river under any circumstances. As Luis Hernán, the leader of the Millaqueo Millahual community in lower Huife, told me when we were introduced in early summer of 2016 by a common acquaintance living in Pichares, one of their concerns was the lack of independent technical information regarding the potential social impact of the project on the communities in the area, which accurately represented local perspectives on the issue. So, after explaining what were my own feelings about the project, and that my research was to be focused precisely on understanding the communities' perspectives and valuations of it, he offered to aid me in my research, and introduce me and my research to people in the area, on the condition that at the end I would write up a report for the community which they could then use to back up their opposition in the process of environmental assessment, and anywhere else such a document might be useful[13]. In this sense, one of the methodological premises of this study is the recognition that its inquiry is a part of the struggle

[13] I would write this report over the first few months I was back in London after my fieldwork. It was presented by the community to the SEA afterwards. One of the other things Luis and others told me was that they were also interested in having a written documentation of the historical memory of the older members of their community. This was also one of the objectives of the report.

it seeks to approach. These conditions also allowed for and required the application of participatory and co-research methods, in which participants had a more active role in the construction of data and some of the research questions for the report. This data has then been adapted to the specific questions this dissertation pursues.

The fieldwork for this study was undertaken between the months of January and May 2016. During January and February—the summer season in an area with an important tourist economy, and thus the busiest for local residents—I began building the main contacts in the locality, started doing some initial semi-structured interviews, acquainted myself with the broader regional politics of hydropower through participant observation in meetings and actions in nearby areas, and conducted most of the archival research in the region itself, such as consulting the Property Registry on water rights. Towards the end of February I began the more intense part of the fieldwork, which extended into May. This phase consisted of the application of the following methods:

1. **Participant observation** in everyday life in the area, meetings of local organisations, mobilisations in opposition to the project, an open meeting with the hydropower company and government authorities, among other everyday and/or extraordinary activities. Among other things, this method allowed me to get a clearer sense of 'the everyday' in the area, the local values attached to the territory, and how the potential hydropower project articulated with the multiple dimensions of this. It also allowed me to get a deeper understanding of the discourse and practice of socio-ecological struggles in the region, the sort of groups involved in them, and how local values related to these.

2. **Semi-structured interviews/dialogues**. These were done with area residents, family groups, local organisation leaders, and key persons with specific knowledge about some aspect of interest, such as history, a specific economic activity, or the relation to the hydropower company. I carried out 30 of these interviews in total. These dialogues covered a wide range of themes—from the area's history, to its current situation and future perspectives, and their personal perspectives on the hydropower project. They allowed me to inquire deeper into what emerged during the fieldworlk as relevant aspects of the local reality. These conversations would normally follow the interviewee's interests as well as mine, which sometimes gave me the oportunity to make unexpected connections and pursue new directions of inquiry.

3. **Focus group dialogue** on the history of the community and its territory with elders from the "Comunidad Indígena Millaqueo Millahual". Seven members of the community took part in this dialogue and myself as facilitator. The dialogue was a space in which the memory about the origins and evolution of the territory was shared, discussed, and interrogated, as were the valuations that in light of this discussion participants made about the future of the community, and the projected hydropower plant.

4. **Workshop on livelihood strategies and participatory mapping** in lower Huife. Five residents of lower Huife and two facilitators took part in this exercise, which discussed in depth the human and environmental qualities of the territory. For this the group made a diagram of the main economic activities of the communities, and collectively drew a map which highlighted what the participants considered to be the main social and environmental characteristics of their territory. Lastly, in the light of the previous exercises, a collective discussion and analysis was made of possible futures for the community, and of the potential impacts that the hydropower project might have in their communities, and the region more generally.

5. **Guided transects** across the areas where the project was to be built. Three of these walks were undertaken, all guided by Nestor Salazar, who lives in Papal, is part of the Neighbours' Council, and has had an active role in the opposition to the project. In these transects Nestor explained to me *in situ* the environmental and social characteristics of the areas in question, the historical evolution of the territory and how this was expressed in the landscape, and the main concrete concerns people had about the project's impacts upon the area.

6. **Photographic record** of the area of study, the communities that inhabit it, and the areas directly affected by the project.

The data emergent from these techniques was then analysed and integrated through the triangulation and contrast between each source, and with bibliographical and archival material, in order to address the research questions described above. Semi-structured and focus group interviews, as well as the workshop, were audio recorded, and then analysed through thematic coding. In the case of the materials such as the map and diagrams, these were used for the report, and in the interests of clarity appear in the present study mostly paraphrased, in the analysis in Chapter 5 and throughout the dissertation.

Some of the data presented in this dissertation is partially anonymised, particularly that presented in Chapter 7. All of the participants were of course fully aware of the aims and conditions of this study, and implicit consent to the use of their identities was always clear. Nevertheless, due to the changes in regulation regarding data management that occured after my fieldwork, pseudonyms will be used in those cases where I did not get *explicit* consent to use names.

It is important to say here that if I learned anything during the months I spent doing the fieldwork for this dissertation, it is that such a relatively short amount of time can only hope to scratch the surface of the very complex histories that have shaped these valleys, their cultural meanings, and the political relations that continue to produce these communities and their ecologies. My hope is, however, that through these tools I have at least been able to discern the main contours of what the current conflict is about, the imaginaries and histories it mobilises, and the vernacular horizons of meaning and value that give rise to the oppositional forces faced by the shifting geographies of hydro(social)power.

In addition to this, and in relation to this last aspect, the current shifts in the energy geographies in Chile—instantiated by the Llancalil project—are still an ongoing and relatively recent process, which started around 2014, at the beginning of Michelle Bachelet's second, non-consecutive, term. This means that the so-called 'energy transition' in Chile has yet to receive substantial academic attention and analysis, something to which this dissertation aims to contribute. The characterisation of these geographies, developed in Chapter 3, thus implied research on a great amount of non-academic material, such as industry and government reports and studies, local press coverage, and importantly, participant observation in movements and regional networks of opposition during my time in the field. I participated in open meetings and demonstrations in other places in the region, such as Temuco and Curarrehue, and talked to many people involved in these organisations. These conversations and experiences have also informed many contextual and political elements of my analysis.

Figure 7. Participatory mapping in lower Huife. April 2016.

Figure 8. Guided transect through the intended construction site. April 2016.

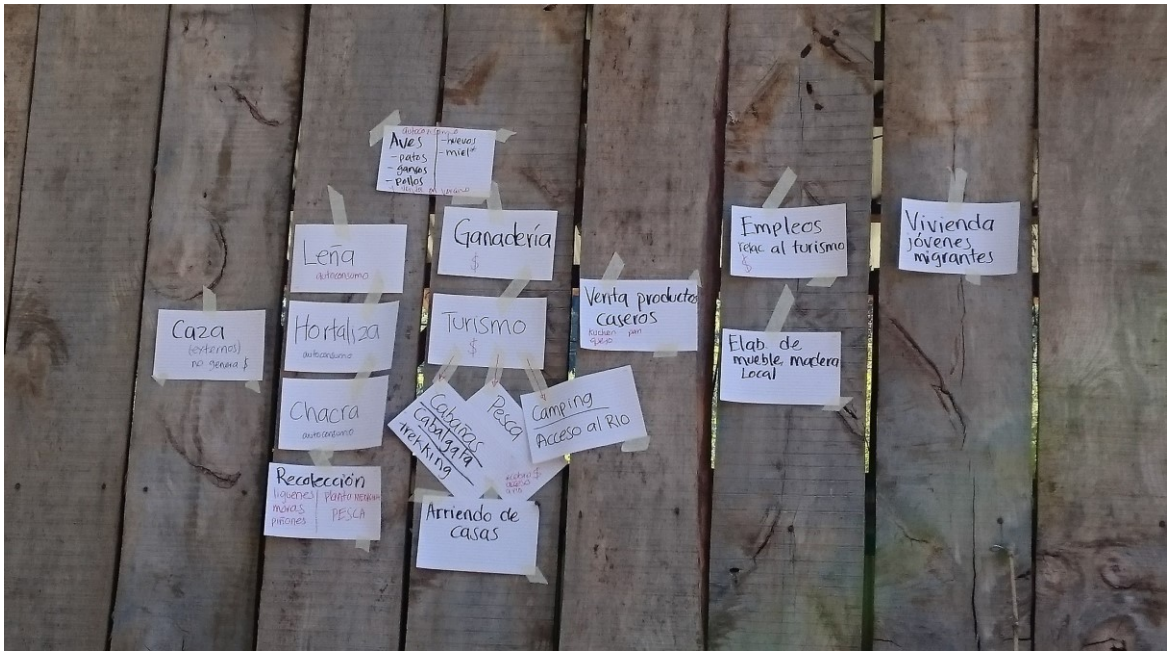

Figure 9. Collective discussion on livelihoods and local economic activities. Workshop in lower Huife. April 2016.

Figure 10. Collective discussion on values and perceived threats of the territory. Workshop in lower Huife. April 2016.

Dissertation outline

One of the key categories woven throughout this study's analysis is that of 'value', and the different chapters will explore the social arenas in which the different layers[14] of value at play in Huife's human ecology are constituted, as well as the ways in which they articulate and/or clash. In Chapter 2 I will present the theoretical framework of this dissertation, developing this concept and its relation to political ecology in detail. My argument develops a socio-ecological reading of Marx's value theory, critically drawing from Neil Smith's thesis on the 'production of nature', but moving beyond some of its difficulties by placing my attention on the critical theoretical importance of the category of use-value. For the latter I draw on a combined reading of the work of Ecuadorian philosopher Bolivar Echeverría, and anthropological theories of value rooted in Marx's, in particular the work of Terence Turner and David Graeber. The chapter argues for an understanding of capitalist ecologies—ie. socio-ecological orders subsumed under the process of capitalist valorisation—as constituted by a complex articulation of multiple geographically unfolding layers of meaning and practice—a multiplicity of values that mediate the social relation to nature—, which nevertheless the logic of valorisation structures in the antagonistic dialectics grasped by the opposition of value and use-value.

Chapter 3 goes on to explore the political ecology of hydropower in Chile, and historically situates this in the coordinates of the cycles of decomposition-recomposition of social antagonisms that has characterised the neoliberal period. The chapter argues that behind the recent shifts in energy policies and geographies, lies a long process of class recomposition internally related to the particular form of extractive accumulation that has characterised the neoliberalisation process. This constitutes the general context for the ensuing ethnographic chapters: the expanding geographies of energy production as an aspect of the national geographical articulation of a law of value of global content, but national form.

Chapter 4 presents an ethnographic account of the socio-territorial constitution of the human community of Huife, and the way in which this history is written into the valleys' landscapes. Beyond trying to establish an ostensibly 'objective' account of past events—a pursuit for which I think oral histories are nonetheless crucial—this chapter aims above all of to explore local histories as a crucial component in the general frame of meaning and values in

[14] In this thesis I will often use the metaphor of the 'layer' to convey the multiple and overlapping forms of value and meaning—and the scales and relations they entail—that mediate the production of Huife as a contested frontier space.

which the projected infrastructural intervention acquires its local political significance and direction, and from which oppositional forces draw their local momentum.

In Chapter 5 I explore the main contemporary contours of the communities in the area, placing my emphasis on the elements that during the course of the current conflict have emerged as significant. In particular, I develop the importance of the geographies of the semi-proletarian condition that characterise most local families—with its specific combination of urban and rural spaces—, those of the tourist economy, and those implied in the condition of indigeneity and the shifting ways in which these communities identify, both among themselves and vis-a-vis national society.

Chapter 6 focuses on the process of commodification of water rights, which is the crucial legal and institutional condition of possibility for the expansion of the hydropower frontier. It analyses the way in which the process of commodification and enclosure articulates with vernacular hydro-social relations emergent from the historical and socio-territorial constitution of the communities present in these mountain valleys. Through an examination of the conflicts and struggles introduced by this process, and to how it relates to the reconfiguration of the state's capacities for socio-ecological control, the chapter attempts to elaborate on what E.P. Thompson famously called the 'moral economy', as a perpetually shifting field in which the struggle over the form-determination of social reproduction and ecological relations is waged.

Chapter 7 explores the different aspects of the ways in which all of the arenas of value explored in the previous chapters converge in the present conflict, through a detailed analysis of an open meeting organised by the Neighbours' Council, between the company, government representatives, and the community. This meeting provided an unusually clear window into several crucial aspects of the contradictions within the community in approaching the conflict, the terms in which knowledge was mobilised by the hydropower company, and the complications faced by the shifting forms of governmentality deployed by the state at the energy frontier. This thesis will finally close with some concluding remarks, questions, and ideas.

2. Value, (use) values, and the contested production of nature: on social form, life-process, and struggle.

Talk about value—about worth, about significance, about preciousness—abounds at the energy frontier. Whether the transformations brought about by the frontier movement are productive or destructive, whether they will create wealth or whether they will inflict misery—all of these controversies constitute a political field in which what is ultimately at stake are the forms of value that define the very meaning of these dichotomies, the *conceptions of the desirable* that mediate our relation to nature, and each other. Indeed, even a cursory glance at contemporary landscapes of capital accumulation is bound to run into the term at every step. Value is the core category at the centre of the alienated 'bad infinity' of financial markets—the socio-ecological content of which acquire increasingly 'monstrous' characteristics (Arboleda 2017)—; it appears at the at centre of the Sisyphean efforts of the world's technocratic cadres to 'get the prices right' and somehow spare capitalism from impending ecological catastrophe; and it is mobilized in the oppositional insistence—commonly found in the sort of frontier spaces this study is concerned with—that 'pricing' itself constitutes the main problem, as it inflicts a barbaric *devaluation* of relations and elements of life which hold forms of value that are by definition unquantifiable (Martinez-Alier 2009; cf. De Angelis 2007). Interweaving meaning, importance, and social practice in subtle and complicated ways, *value*, in its several different semantic registers, appears in this sense to point to a core aspect of human ecologies: to the cultural mediations that materially structure our socio-ecological world, and constitute the conflicting layers of significance and practice that make up its historicity.

In this sense, there has been a recent resurgence in the interest for the ecological significance of Marx's value theory (see Huber 2016; Kenney-Lazar & Kay 2017; Kay & Kenney-Lazar 2017). This current reengagement of political ecology with value theory can only be welcomed: as Huber (2016) notes, relative to the proliferation of empirical studies on the 'valuation of nature', engagements with the theoretical grounds on which the concept is mobilised remain conspicuously rare. Such debates show, at the very least, the generative potential of renewing discussions of Marx's core concept. They also show, however, how the broad semantic reach of the term, and the seldom explicit exposition of the theoretical underpinnings of its use, can easily lend itself to confusion; as the concept is pushed in every direction, one often gets an inevitable sense of fading conceptual clarity. I think that at the root

of this lie two questions: 1. the different, and not always explicit, ways in which Marx's theory of value is understood to hold ecological significance, and 2. the question of whether the different registers of the word 'value'—as measure, as economic form-determination, as moral-cultural category—point towards a common conceptual ground, or if they simply denote an unfortunate semantic overreach of the word. The answers to both of these questions have important implications for the development of a more nuanced understanding of capitalism's profoundly contradictory and destructive socio-ecological constitution, and for possible ways of thinking about the grounds for its necessary overturning.

In this chapter I want to connect hitherto geographically and disciplinary distant strands of literature to develop elements of a value-theoretical framework that might hopefully shed new light on the issues that this dissertation examines. As is the case with the field of political ecology in general (Loftus 2017), a broadening of the disciplinary and geographical scope of these debates can infuse much needed new perspectives. In addition, the ideas developed here touch on two current concerns within Marxist political ecology more broadly: on the one hand, current controversies about the validity (or lack of) of the Nature/Society distinction within Marxist ecological thought (eg. Foster 2016; Moore 2017a), and on the other, the need for greater ethnographic traction within this tradition. As Ekers and Loftus (Ekers & Loftus 2012) point out, what is needed is a more textured account of the concrete practical, ecological, and symbolic density of the landscapes in which capital is reproduced and resisted. As I will argue in this chapter, the latter holds particular importance, as it is in this field where the contradiction between the concrete life-process and its economic form-determinations is reflected with greater clarity, a contradiction that should be seen as the basis of Marx's value-theoretical approach (Saito 2017).

In this sense, many of the persisting charges against the relevance of Marx's theory of value for ecological thought emphasise the importance of non-economic forms of value for the constitution of concrete human ecologies, which the purportedly economistic and utilitarian notion of 'use-value' cannot grasp (eg. Gudynas 2017). In reducing Marx's notion of use-value to that of a flat utilitarianism, these approaches fail to grasp use-value's role in Marx's fundamental critique of economic forms (Echeverría 2014; cf. Bonefeld 2014). Taking my cue from anthropological theories of value rooted in Marx, in this chapter I will argue that the core insights implicit in Marx's theory not only shed light on these non-economic forms of value, but can indeed provide firmer materialist grounds for interpreting their ecological presence.

I start by considering in what way Marx's value theory can be considered to be inherently ecological, a question only intermittently developed within ecological thought. For this, I will go back to what I consider to be the core contribution of Neil Smith's thesis on the "production of nature": *the positing of value as a category of socio-ecological constitution*. However, I argue that it is in the failure to more clearly grasp Marx's categories as ones of antagonism and contradiction that Smith's formulation risks a constructivism (passed to different degrees on to the strand of Marxist ecological thought it inaugurated) that is unable to grasp the theoretical, historical, geographical, and ecological significance of the irreducible contradiction between form-determinations and concrete metabolism. This metabolism presents an irreducible autonomy, which cannot however be considered to be 'external' to the fetishized forms of capitalist society, but rather *internally constitutive* of their contradictory existence as ecological projects. Finally, to approach the different layers of meaning and practice that make up concrete landscapes, I will reconsider the dialectical counterpart to Marx's category of value, that of *use-value*, through the ideas of the Ecuadorian philosopher Bolívar Echeverría, and advance further on use-value's concrete determinations through anthropological theories of value rooted in Marx, in particular the work of Terence Turner and David Graeber. Understanding value(s) as socio-semiotic process of mediation between human action and its sociality, these theories, integrated with the revised notion of the production of nature I propose, provide a route to a more textured account of the *contested* production of the actually existing landscapes of capitalism, which this dissertation will explore in the following chapters.

Value and Neil Smith's thesis on "the production of nature"

For Marx, the category of 'value' grasped the core of capitalist modernity in its most essential terms—it designated that which made capitalist domination so historically distinct (Postone 1993). In its Marxian reading, 'value' is an historically specific form taken by human material relations of interdependence and mutual constitution—"social life-process" (Marx 1990:173)—one in which relations between people constitute themselves in the alienated, fetishised, and self-expanding form of economic objectivity (Bonefeld 2014). As a theory about a historically specific form taken by the social character of the metabolic relation to nature (ie. labour) (Marx 1990:174), Marx's theory of value has always been by implication a theory of the specificity of socio-ecological relations under capitalism.

Formulated in this way, the fact that Marx's theory of value has fundamental ecological implications may seem self-evident. And yet these implications have only been intermittently explored at depth within the Marxist tradition[15]. One of the first to explicitly take this direction was Neil Smith, through his thesis on the 'production of nature' (Smith 2008 [1984]). Smith's contribution was greatly influential, as it opened up a distinct branch of Marxist ecological thought, one with particular influence within geography. In the three decades since its original formulation, much has been written on the merits and pitfalls of Smith's thesis. Reviewing this literature is beyond the scope of this chapter. My purpose in going back to Smith is instead to recover his underappreciated, but nonetheless crucial contribution regarding the ecological significance of Marx's value theory, and try to develop this idea in a somewhat different direction, one that can avoid some of the crucial weaknesses running through much of the particular strain of Marxist ecological thought that Smith's work inaugurated.

Smith considered that the notion of 'nature' as an external domain, fundamentally independent and clearly distinguishable from human activity, was an ideological form rooted in the particular material experience of the bourgeoisie (2008:28). This dualist conception of society and nature renders the latter in principle independent from social relations and labour. 'Nature', through an historical process of "aggressive externalization" (Smith 2009:24), is thus rendered a domain defined by *subjectless objectivity*—nothing less than the ontological underpinning of primitive accumulation. As such, for Smith the ideological notion of 'Nature' abstracted the central role of labour in the historical process of what he called *the production of nature*. Smith, following Marx (1990:283), argued that the labour process is a transformative moment of both its human and non-human elements, and that therefore so-called 'natural conditions' are not only a premise, but also a product of society's metabolic history. Nature is thus produced. The traditional Marxist equation of nature with the realm of use-value is thus for Smith severely misguided. Insofar as the capitalist labour process is subsumed under the imperatives of valorisation, value should be conceptualized as an ecological force in its own right. In Smith's own words:

> [I]t is the abstract logic that attaches to the creation and accumulation of social value which determines the relation with nature under capitalism. Thus the movement from the abstract to the concrete (…) is the perpetual translation actually achieved in the relation with nature under capitalism; *abstract determinations at the level of value are continually*

[15]Among recent examples that explicitly deal with this at length, if somewhat different in orientation, are the work of Jason W. Moore (eg. 2015) and Kohei Saito (2017).

> *translated into concrete social activity in the relation with nature*. (Smith, 2008:70, emphasis added.)

Within capitalism, 'first nature'—defined by Smith as the concrete effect of the labour process and the realm of use-values—is subordinated to the 'second nature' of the abstract value relation, under the imperative of profit as the ultimate systemic *telos*. For Smith, due to the "ability of capital to produce the material world in its own image (…) the production of first nature from within and as part of second nature makes the production of nature, not first or second nature in themselves, the dominant reality" (Smith 2008:83).

Smith thus posits the category of value as one of socio-ecological constitution: under capitalism the material constitution of a growing field of ecological relations is thoroughly implicated in the reproduction of value relations; value effectively functions as a constitutive environment-making force in the capitalist landscape through the real subsumption of the labour process. Moreover, it can be further said that the capitalist law of value is premised upon a particular set of spatial and environmental relations: ie. the enclosure of the commons, the separation of people from land, and the concomitant creation of the conditions for the private exploitation and appropriation of social labour through the wage relation. Rather than merely having environmental 'effects', the emergence and persistence of the capitalist law of value is contingent on the ongoing production of a particular sort of landscape (cf. Moore 2015).

Abstract determinations and concrete metabolism: the production of nature as struggle

Smith was at pains to stress the difference of his conception of production of nature from that of the 'domination of nature' emergent from the Frankfurt School (eg. Schmidt 2014), by signalling the "ways in which social production can create accidental, unintended and even counter-effective results vis-à-vis nature": instead, his thesis "makes no pretence to the *control* of nature" (Smith 2009:24). Yet the theoretical basis provided by Smith allows for no way of understanding these unruly, yet conspicuous, moments of capitalist ecologies other than as the spasmodic consequence, however unintended, of a logic of valorisation constituted as the central organising principle in nature itself (Smith 2008:91). This quite literal capitalo-centrism ignores the fundamental theoretical importance of the condition of *irreducibility* that defines any realist conception of nature, as an *internal* determination of the contradictory socio-ecological development of the value-form.

Let me illustrate this point with an example from the region this dissertation is concerned with. At first glance, Smith's argument can be exemplified by a quick look at the pine and eucalyptus plantations that have expanded exponentially upon the valleys in the south-central regions of Chile. These plantations exploded under the Pinochet regime (1973-90), so that, in little over a decade, more than one million hectares—the property of which remains heavily concentrated—had been forested, many in the very same lands peasant and indigenous organizations had occupied during the Land Reform under the government of Salvador Allende (Klubock 2014). This social and ecological transformation was consubstantial to the radical reconfiguration, rescaling, and deepening of value relations, as the round of primitive accumulation in the form of counter land reform, political prosecution, and corporate subsidies combined with rural proletarianisation and radical ecological simplification through genetic homogeneity to allow for competitive accumulation on the world market (Klubock 2014; see Chapter 4). Today, over two and a half million hectares are covered by pine and eucalyptus monocultures (Aylwin et al. 2013). This is no less than the ecological instantiation and reproduction of a globally defined law of value—the 'production of nature', writ large.

But, as it turns out, things are rather more complicated than what is allowed by Smith's formulation, which in dismissing the traditional distinction between first and second nature too quickly slips into an apparent blurring of that between materiality and abstraction (Smith 2008:83)—a distinction crucial to Marx's critical project, and to the dialectical movement of contradiction implied in his theory of value[16] (Saito 2017). The vast armies of genetically homogeneous trees lined up with mathematical precision do powerfully convey the notion of capital producing "the material world in its own image" (Smith 2008:83); but any notion of this being an image of the closed formal logic of the value-form is quickly dispelled upon a closer look at the region's convulsive political ecology.

The regions upon which these plantations are inflicted are the most heavily militarised landscapes in Chile: armoured police convoys escort the operations of forestry corporations, as routinely as they raid increasingly militant Mapuche indigenous communities (Beaudry 2009). Indeed, the landscape harbours a living and restless memory of successive waves of dispossession of Mapuche lands, consubstantial to the historical constitution of successive forms of accumulation. As a consequence, the consolidation of the forestry industry has been counterposed by the recomposition of indigenous struggles for the recuperation of ancestral

[16] This is, the dual and contradictory character of wealth in capitalist societies: 'natural properties' holding particular significance in relation to human needs (use value and 'material wealth'), and its capitalist social form (value) (Marx 1990).

land; a political project inextricably linked to the regeneration of local biodiversity as its ecological substratum and in direct confrontation to forestry capital (Klubock 2014; González-Hidalgo et al. 2013). The ensuing distribution of, for instance, native forests and the landscapes of the peasant economy can hardly be seen to express a closed, self-moving logic of valorisation—"the perpetual translation" of which is "actually achieved in the relation with nature" (Smith 2008:70)—, but rather the ecological sedimentation of layers upon layers of histories of resistance and adaptation, an ever-evolving battlefield where the stakes of the struggle rest precisely on the fact that this "actual achievement" is never fully settled, but necessarily produces the conditions of its own negation. This is an important point, for it signals the fundamental *non-identity* between the value-form and its content, one that not only accounts for the real historical movement of socio-ecologies articulated by capital, but that also fundamentally undermines any 'constructivist' direction in which the idea of the production of nature might be taken.

This non-identity is also clearly expressed in those contradictions of the plantation ecology grounded on natural tendencies. These are perhaps most dramatically illustrated in the increasingly destructive seasonal wildfires, water stress, and rising toxicity due to intense pesticide use (Frêne & Núñez 2010; Little et al. 2009; González et al. 2011). Rooted in conditions such as the pyrophytic characteristics of eucalyptus species, or in the phenology of, say, *Sirex noctilio*—a species of woodwasp that inflicts on the industry millions in losses—these factors originate from inherited traits and forms of reproduction that in effect militate against the compulsions of valorisation, constitute its concrete determinations, and trace their lineage to an irreducibly autonomous nature. And at the same time—and I think this is a point missed by many of the critics of monist approaches—it is crucial to understand that these conditions cannot be considered to be *external* to the reified categories of capital: not only the presence of *Sirex noctilio* in these latitudes cannot be explained without reference to the Chilean process of neoliberalisation, but, crucially, this relative autonomy of natural metabolism is *internally constitutive* of the inherently contradictory and crisis-ridden existence of value as social form of metabolic relations.

"All the magic and necromancy" (Marx 1990:169) of the reified concepts of movement of the Chilean forestry industry—above all, profitability—being as they are necessarily grounded in the constant reorganization of the material life-process under the abstract determinations of the law of value, are the "social hieroglyphs" of an inherently open dialectical movement of *non-identity* (cf. Holloway 1995). The ecological instantiation of the value-form is consubstantial to

these histories of composition, decomposition, and recomposition, all tenaciously grounded in the contradictions and particular geographies of the Chilean neoliberal landscape. *Pace* Smith, concrete ecologies cannot be derived from the economic form-determinations of value, as these can only be instantiated through *the unfolding of an irreducible contradiction between abstract economic forms and the concrete metabolism through which they are constituted*. This is, I suggest, the central contradiction that characterizes historically existing capitalist ecologies—one that Marx's theory of value is particularly well suited to grasp.

In this sense, I think that it is in the failure to more clearly grasp Marx's categories as categories of contradiction and antagonism that the idea of the 'production of nature' has so frequently overlapped with non-dualist theorizations of a more postmodern bent (eg. Castree 2002). This has left a notion otherwise crucially opening up the ecological dimensions of Marx's theory of value vulnerable to charges of simple constructivism (eg. Malm 2018); a theory that ultimately affirms in ideal form that which is constantly being negated in practice. If, as Adorno held (Adorno 2004), dialectics imply "a consistent sense of non-identity", it is precisely this dialectical movement that risks being effaced in many monist theorisations of society and nature, which thus become unable to grasp the real movement of socio-ecological reproduction under capitalism.

Form and Content, Nature and Society

In the 2017 Deutscher Memorial Prize Lecture at the Historical Materialism Conference in London, in the context of an exposition on the ecologies of marronage, Andreas Malm drew attention to how, as successive generations of ecological Marxists rightly and effectively unpacked the reactionary underpinnings of classical concepts of 'wilderness', we have unwittingly arrived at a position where we have difficulty seeing the theoretical and historical significance of that which, to varying degrees, hold the qualities of being untamed, unsubsumed, still out of the complete control of the grinding machine of capital. Understood in this register, wilderness, Malm suggested, might have a place in the anticapitalist politics of a strained planet, one which Marxist ecological thought ignores at its own peril. The argument developed here points in a similar direction to the concerns expressed by Malm: the crucial theoretical, political, and historical importance of the way in which material socio-ecological reproduction stands in a non-identical relation to its capitalist forms, albeit in a way not external to the latter, but internally constitutive of their contradictory historical unfolding.

The constitutive *irreducibility* that Malm suggests nature can evoke so powerfully is, I think, the fundamental point of departure for critical thought, or more precisely, thought that is concerned with crisis. John Holloway formulates this as thinking "the world from our misfitting" (Holloway 2010:9), from the ways in which our social life-process is not only constituted through the reified forms of capital, but against and beyond them: a ubiquitous misfitting that gives capitalist society its immanent self-antagonistic and crisis-prone movement. In this sense, departing from the non-identity of form and content implies understanding capitalism not from domination, but "from the perspective of its crisis, its contradictions, its weaknesses…" (Holloway 2010:9). From this starting point, "the only way in which we can understand the capitalist forms of social relations (and, at their centre, abstract labour) is as forms swollen with their own negation, forms that do not contain their content, but from which their content constantly overflows" (Holloway 2010:188).

From this point of view, the opening question in a recent essay by Noel Castree (Castree 2015:279) on the production of nature appears rather puzzling: "In a world where corporations create new life-forms and may soon geo-engineer the skies, does what we call 'nature' any longer possess autonomy and agency?" As we have seen, even in the most brutal landscapes of subsumption, such as the ones described in the previous section, it is the fact that nature *cannot* be contained by the abstract determinations of the law of value that accounts for the self-negating (and self-destructive) dynamism of plantation socio-ecology—and indeed of the capitalist mode of production in general. With its endemic proliferation of pests and wildfires, and the dynamic persistence of cultural meanings and values embedded in the landscape that cannot be represented under the capitalist value regime as anything other losses, the relentless drive towards the real subsumption of nature exemplified in these southern latitudes cannot be conceived as anything less than a battlefield.

In light of this, however, it is equally evident that the metaphor of 'wilderness' remains inadequate: it operates on a distinction—the presence/absence of an abstract humanity—that has only marginal meaning for a contradiction structured around the non-identity between the general life-process and its dominant social form. As useful as the distinction between society and nature may be for a number of analytical purposes, locating the contradictions behind environmental destruction at this level risks, among other things, obscuring the ways in which *social* irreducibility to the imperatives of accumulation is intertwined with that of *nature*—an issue that remains an indispensable field of militant inquiry. In this sense, while a good deal of monist theorisations do risk ignoring the crucial dialectics of nonidentity between form and

content inherent in Marx's value theory, such a distinction cannot be adequately grasped by that between nature and society, for capital moves in history and geography *through waging war on both*.

Let me illustrate this claim. As highlighted earlier, this dialectic between the material life-process and its economic form-determinations underpins Marx's theory of value, and it can be seen to resurface strongly in his theory of differential rent (Marx 1991). Ecological variability—eg. different qualities of the soil, climate, etc.—runs necessarily counter to the homogenizing tendencies of the law of value—eg. the equalisation of profit rates—as goods rendered equivalent in the market incorporate differential costs rooted in the inherently diverse ecological conditions in which agricultural production is embedded. When demand is such that harvests produced under less productive lands need to be incorporated, these 'distort' the regulating market price, which then generates permanent 'surplus profits' or a differential rent for those producing on the best lands. Needless to say, this immanent resistance of nature to the homogenizing compulsion of capitalist markets has had a determinant importance for the historical development of rural societies under capitalism. For the Mexican agrarian scholar Armando Bartra (Bartra 2006), differential rent constituted the structural basis for the persistence of the peasantry in dependent capitalist countries (Latin America in particular) as states attempted to muffle this rent through the reliance for cheap food on a class of producers whose ties to the land—associated both to cultural and subsistence conditions—made them able to sustain production below the average rate of profit, or even at the point of simple reproduction. In other words, for Bartra, the resistance that ecological variability necessarily poses to the operation of the law of value was one of the main conditions for the reproduction of non-capitalist relations to the land in the Latin American countryside during the better part of the twentieth century.

To be sure, this strategy for securing cheap food (and lowering wages) at a national level went largely out the window in the neoliberal period, as production for national consumption was replaced by cheap food imports, and the lion's share of state subsidies went towards agro-export capitalist production (Rubio 2001). Nonetheless, the underlying contradictions have appeared in even more explosive forms as millions of people moved from being part of a structurally exploited class of agricultural producers to becoming a marginalized rural population whose ways of life—and with it the historical and symbolic density of the land—appears hopelessly anachronistic from the perspective of a globally rearticulated law of value (Rubio 2001). This accumulation regime recasts a reconfigured, and particularly brutal,

geography of rent in the form of, *inter alia*, intensified and expanded 'extractivist' investments, which have become a characteristic feature of Latin American rural landscapes and political struggles, in neoliberal and 'postneoliberal' countries alike (Svampa 2012; Gudynas 2012; Webber 2017). This renewed geography of rent, in its different periods, has provided the backdrop for the development of some of the most important popular movements in Latin America, such as the Zapatista Army of National Liberation (EZLN), the Brazilian Landless Peasant Movement (MST), or the Ecuadorian indigenous movement (eg. CONAIE), all of which have made world-historical ripples in the geographies of anticapitalist struggle (Rubio 2001).

Even in this context, capitalism's struggle with its natural foundations continues to impose in many places the reproduction of a relative exteriority *within* the agrarian landscapes of capitalism itself: that is, the reproduction, even if fragmented and pauperized, of diversity in both social and agroecological terms, in the shadows of the decrees of the world market. As Bartra (2006:25) notes, capitalist fantasies of a completely subsumed nature notwithstanding, the irreducible autonomy of the latter makes itself felt in the rhythms it imposes on agricultural production, which seasonally concentrates the demand for labour on sowing and harvest periods. Seasonal labourers must however eat year-round, and thus peasant production continues to be reproduced as a constitutive feature of the landscape. To quote Bartra:

> [I]n the end, what allows the specialized agribusiness entrepreneur to pay only for the work days required is a diversification of crops that runs on the account of the employee and her family. This is illustrated by the capitalist plantations in the coastal valleys [in Mexico], which are only economically viable thanks to the peasant *milpas*[17] in the mountains. This is to say, that, finally, productive diversification enters through the backdoor, associated in this case to the combination of two different immanent economic rationalities. (2006:25, my translation).

The 'vernacular' and world-ecological totalization

This idea of capitalism having to necessarily posit a *relative* exteriority—a field of non-commodified practices, which, although not directly constitutive of value, constitute nonetheless its conditions of possibility—has a long history within the Marxist tradition, one which perhaps has been nowhere more central than in social reproduction theory and Marxist

[17] Milpa is the main traditional agroecosystem in Mesoamerica, based on the association of maize, beans, and squash.

feminism more generally[18]. Developing this insight systematically within ecological thought is in my view one of the greatest merits of Jason Moore's work (eg. 2015; 2017b). Moore's model hinges on a dialectic of exploitation and appropriation inherent to capital's law of value. The establishment of socially necessary labour time as a measure of value—abstract labour—implies what Moore calls the historical production of an 'abstract social nature': the cultural and political mechanisms of legibility (Scott 1998) and control that capitalist power imposes upon the socio-ecological matrix upon which accumulation expands (Moore 2015; 2017b). For Moore, the rate of productivity of wage labour depends upon this ability to appropriate unpaid human (eg. domestic labour) and extra-human (eg. soil, water flow, old-growth forests, etc.) work: the law of value is the law of 'Cheap Nature'. From this point of view, and in relation to the issues dealt with in this dissertation, one could understand the emergence modern conception of 'energy'[19] as part of the historical development of the dialectics between abstract labour and 'abstract social nature'. As Lohmann and Hildyard (Lohmann & Hildyard 2013; 2014) have argued, the expansion of the modern conception of energy is intimately linked to the expansion of the commodification of labour: both constitute symmetrical (real) abstractions through which a complex web of processes and relations have become structured around the condition of *commensurability*.

Nevertheless, as compelling as Moore's account of capital's world-ecological logic is, from the perspective I am developing here his model remains one-sided: it offers no theoretical grounds for the articulation of the concrete and contradictory movement of socio-ecologies in any other terms than those of capitalist domination—ie. the brutal law of 'cheap nature' as capital's form of world-ecological totalization. However, as I have argued, if we consider the material life-process and its capitalist forms (forms encompassing *both* those of abstract labour and 'abstract social nature') as a non-identical unity besieged by misfitting, the critical question

[18] See Bhattacharya 2017 for a recent collection of essays developing this crucial insight from a wide variety of angles.

[19] Physicist Richard Feynman (Feynman 1969:316-317) observed that at its most fundamental, the concept of 'energy' signals the mathematical fact of a magnitude which remains constant amidst any change underwent by a system. This is, energy is an abstraction—''not a description of a mechanism, or anything concrete''. This mathematical abstraction allows to quantitatively describe relations, processes, and transformations which, in turn, can be more substantially defined. This is what Feynman had in mind when he criticised the approach taken by a first grade science book which to the question 'What makes this windable toy dog move?', answered 'Energy makes it move!': "It would be equally well to say that 'God makes it move,' or 'spirit makes it move,' or 'movability makes it move.' (In fact, one could equally well say 'energy makes it stop.') (…) We might say when something can move that it has energy in it, but not what makes it move is energy. This is a very subtle difference. (…) Perhaps I can make the difference a little clearer this way: If you ask a child what makes the toy dog move, you should think about what an ordinary human being would answer. The answer is that you wound up the spring; it tries to unwind and pushes the gear around."

and point of departure would be that of how the negation—the law of value/cheap nature—is itself negated in concrete reproduction and its emergent values, in and against its alienated world-ecological totalization in capital. The dialectic offered by Moore is that of the *internal relations between capitalist forms of domination*—sphere of capitalization and sphere of appropriation—but not that of the *non-identity* between *both* of these abstract forms and the concrete life-processes that constitute them. This is what I think has left Moore's model, despite his intentions, open to be read as a 'hyper-constructivist' position (eg. Foster 2016), in a manner similar to Smith's, as it confines its account of socioecological reproduction to the form it assumes from the standpoint of capital's world-ecological totalisation: the value-form and its cheap nature pedestal.

A seldom recognized distinction made by Ivan Illich might help to clarify this point. Illich (Illich 1980) distinguished between what he termed 'shadow work'—those unpaid forms of activity that only exist as the necessary complement of commodity production, and that are inextricable from it—and what he called 'the vernacular'. In its classical Latin usage, the word denoted "sustenance derived from reciprocity patterns embedded in every aspect of life, as distinguished from sustenance that comes from exchange or from vertical distribution" (Illich 1980:85), a meaning later transported to language to signal the non-formal rootedness of the latter in the speaker's own relational grounds and everyday usage, as opposed to its formal abstraction and codification as part of the constitution of state power. For Illich the word allows for greater precision and depth than that afforded by terms such as 'subsistence', which too often is taken as 'bare minimum material conditions for life' and reinforces economistic understandings of social practice. In contrast, the 'vernacular' encompasses a crucial dimension of human existence and practice—present in practices and forms of knowledge as diverse as music, childbirth, architecture, notions of reasonableness, preparation of food, the shaping of language and other forms of embodied competence, etc.—that is oriented to an embodied and contextually defined *telos*. Illich was emphatic about the importance of the distinction that this word allowed within what is normally understood as 'social reproduction'. For Illich the fundamental opposition posed by modern society was not that between wage labour and its complementary 'shadow work', but between this binary—the dual form of capitalist domination—and the vernacular, everyday embodied relations of mutual constitution, which although fragmentary and arguably receding, constitute a "mode of being, doing, and making" irreducible to abstract formalization and quantification, one productive of its own immanent *teloi*.

Illich's notion of the vernacular nevertheless encounters its limits in the extent to which it posits this realm of human practice as 'external' to capitalist modernity and its historical development. Instead, here I want to push Illich's notion further: the 'vernacular' does not necessarily designate different *kinds* of practice—i.e. modes of being external to capitalist modernity—, but more fundamentally, different *dimensions* of practice *within* capitalist society. Operating within Marx's dialectic of the concrete and abstract dimensions of capitalist labour, the vernacular, embodied orientation towards a contextually defined *telos* should be seen as internal to every form of labour, even if it appears only in its negated form—*inter alia*, as class struggle (cf. Cleaver 1992).

More specifically, under capitalist relations of production the labour process is a site where contradicting *teloi* co-exist: from the point of view of the valorisation process wages appears as a cost, while for its constitutive powers—ie. the labourers—it appears as their access to the means of subsistence, ie. the sustainment and enhancement of their life-worlds. In the constitutive moments of capital's valorisation, the material acts involved thus appear as sites of conflicting valuations (cf. Marx 1990:ch.10; cf. De Angelis 2007). Regardless of the imposition of abstract determinations, or rather precisely because of them, at the level of concrete practice, the labour process is beset by innumerable acts that from the point of view of capital's valorisation processes constitute instances of 'indiscipline' or resistance which cannot be ignored when approaching the material constitution of the landscape, nor the particular forms taken by accumulation strategies (cf. Scott 1985). This does not mean that these acts are necessarily consciously articulated as 'resistance', rather, *they appear as such from the point of view of the accumulation process and its imperatives of abstraction, legibility, fetishization, and expansion*.

As an internal moment of capitalist society, the 'vernacular' should not be understood as an ahistorical category; on the contrary, it is an *immanent critical* one rooted in the contradiction between the life-process and its social form; a contradiction that can be seen condensed in Marx's analysis of the commodity as fractured by its existence as value and use-value. And as the basis for use-value, the concrete historical instantiations of the vernacular dimensions of life are inextricable from the historical development of the social form of capital: capitalism produces its own forms of vernacular practices, values, and consciousness. Moreover, although there are of course properties that are specific to human practices (which will concern the rest of this paper), at the most general level of abstraction 'the vernacular' can be seen to

implicate the practically infinite layers of autopoietic activity that make up the biosphere, which cannot but persevere, at the most basic level, in their *autonomy*.

If, as Moore holds, following Federici, "it is precisely the symbolic erasure, the invisibilization, of care work that has been the necessary condition of capitalist development" (Moore 2017c:330), the question becomes how do we think *against* this invisibilisation, how do we think from that which is being invisibilised? More pertinently to the subject of study in this dissertation, think for example of a river: as abstract social nature it might appear as 'energy', as 'hydropower potential', as cartography, as quantifiable magnitudes of various kinds (eg. Ministerio de Energía 2018); as value it might appear in the form of the potential rents generated by the establishment of a hydropower project. But what is being negated in these specific forms? The river as a life-process, drenched in the symbolic and historical density of its human relations, and the infinite complexity of the non-human layers of activity that make up its ecology. If the task of articulating a revolutionary politics for a different conception of the values mediating our mutual constitution is not to fall into idealist utopianism, we must attend to their immanent grounds in our actually existing life-process, the ways in which they inhabit and sustain it, albeit in the fragmented, incoherent, and contradictory way imposed by the dialectics of capital's law of value and the reified and alienated realm of economic objectivity it establishes. The specific practices and meanings at play in the historical density of the landscape, the ways and extent to which the material life-process poses immanent resistances to the requirements of the social form of value, should in this sense be at the forefront of the analysis. As Ekers and Loftus put it, taking their cue from Gramsci, it is necessary to reclaim "a sense of the concrete determinations of human practice in different historical moments and in different geographical situations" (2012:15, cf. Loftus 2012). In rooting our politics and our critique of the political ecology of capitalist development in the affective, embodied, everyday practical engagement with nature we might constitute the grounds for the oppositional reenchantment of nature that Neil Smith, writing over a decade after his original thesis, thought to be a still unfulfilled task for the left (Smith 1998).

To approach this in terms of value theory, in this next section I will reconsider that which the Ecuadorian philosopher Bolivar Echeverría considered to be the "implicit conception that sustains the entire edifice of the critique of political economy" (Echeverría 2014:24): the category of use-value.

Use-value, production, and anthropological theories of value

Once we move into social relations not directly mediated by the value-form—say, for instance, the relations and practices that reproduce the *milpa* system alluded to earlier—, Marx's theory of value leaves us with the notion of 'use-value' as the concept mediating human action vis-à-vis nature. On a first approximation, this poses no problem: outside of the accumulation process the engagement with nature no longer obeys the determinations of capital's law of value based on socially necessary labour time in a direct manner, but rather responds to whatever is collectively defined as constituting social 'needs'. However, this doesn't really tell us anything in particular, as what makes these needs specifically human is that they are irreducible to some unmediated instance of 'natural' requirements, but only exist through a movement of *transnaturalisation* (Echeverría 2014) into cultural forms that are infinitely variable across time and space. The notion of 'use', in short, is necessarily defined in relation to a particular *telos*; it is implicated in social and moral universes in relation to which any notion of 'utility' acquires meaning[20] (Echeverría 2014; cf. Sahlins 2013). However, for Marx's purposes of building a critique of political economy, the point of the concept is the identification of a *dialectical tension* within the commodity form: it distinguishes between the needs defined by the expansive accumulation process and the needs of concrete human subjects, aspects which under capitalist social relations develop as contradiction. Use-value thus fundamentally functions as a category of contrast, one whose dialectical relation to value as a measure of socially necessary labour time makes way for Marx's critique of political economy. As Echeverría pointed out (2014), although crucial, use-value is a category left comparatively undeveloped within Marx's work. It thus open up the question of that dimension of the life-process negated in capitalist economic forms, but cannot answer it without further elaboration.

To move in this direction it is necessary to interrogate the notion of 'production' from the point of view of use-value. Echeverría reminds us that to "produce is to objectify, to inscribe in the form of the product a *transformative intention* addressed to the subject itself" (2014:29). In this sense, from the point of view of use-value the social production of objectivity is a subordinated moment in a process ultimately aimed at the production of a particular form of (social) subject (cf. Graeber 2007:95). For Echeverría, it is the capacity of the social subject to give *form* to its constitutive relations of interdependence that defines its *subjecthood* [*sujetidad*], a movement through which "its identity and the differential identity of its members"

[20] This point relates directly to the concept of the 'moral economy', explored below, and in Chapter 6: it describes the necessary entaglement of human practices in universes of meaning and value, in an uneasy relation to exchange value as a purely abstract quantitative dimension.

is constituted (Echeverría 2014:27), and through which a structural social *telos* is founded. Production, from the point of view of use-value, can only ultimately be the semiotic and material production of particular kinds of persons, and, more precisely, the relations that constitute them and through which they acquire, and confer, meaning and value.

Arguing in a similar direction against the 'naive materialism' of certain classical strands of Marxist anthropology, anthropologist David Graeber (2007) calls attention to Marx's comments in his ethnographic notebooks, where he points out that

> Among the ancients, we discover no single enquiry as to which form of landed property … creates maximum wealth. Wealth does not appear as the aim of production … The enquiry is always about what kind of property creates the best citizens. …
>
> Thus the ancient conception, in which man [sic] always appears (in however narrowly national, religious, or political a definition) as the aim of production, seems very much more exalted than the modern world, in which production is the aim of man [sic] and wealth the aim of production. (Marx 1965:84)

Marx here notes the particularity of modern society, the brutal inversion inflicted by capitalistically constituted production onto the social life-process: that "in which production is the aim of man [sic] and wealth the aim of production". The objective dimension of the social life-process—which consolidates as the discrete sphere we know today, i.e. the economy, with the generalization of the commodity-form as social nexus, and its autonomisation as capital—constitutes itself as an 'automatic subject', in relation to which the social life-process becomes structurally devalued as a mere *means*, caught in the unending treadmill of valorisation (Postone 1993). In this context, from the perspective of Echeverría use-value appears as an immanent critical concept, one that "shatters" this horizon of modern thought (Echeverría 2014:24), and allows for the articulation of a critical discourse which sheds light on the way the concrete organization of social reproduction that capitalist modernity effects is torn in a *perennial struggle* of the 'spectral' inversion of the value-form to subsume the 'socio-natural form'[21] of social reproduction signalled by the concept of use-value (Echeverría 2011:283). The central

[21] For Echeverría the term 'natural form' "does not make reference to a 'substance' or 'human nature' of metaphysical validity, against which the 'value form' would be 'in sin'; nor to the rootedness of the human in Nature's normativity, in relation to which the 'value form' would be a mere artifice lacking any basis. It refers exclusively to the fact that that which is human, being in essence 'artificial', non-natural, that is, contingent, self-founded, must always constitute its forms in an act … of 'trans-naturalisation', act that makes them forms constituted on the basis of proto-forms located in nature, the same which, 'determinately negated', remain as its substance." (Echeverría 2011:281, my translation).

political struggle posited by capitalist modernity is, for Echeverría, one over the form-determination of the life process (Sáenz De Sicilia & Brito Rojas 2014).

Echeverría's approximation to use-value remains pitched at a very high level of abstraction and formalisation. Its concerns, however, overlap in interesting ways with a different tradition of scholarship within anthropology that has developed a Marxian inspired approach to the question of value (see Graeber 2001). The ethnographic focus of this latter body of work develops this dimension at more concrete levels of analysis. The pioneering author here is the late Terence Turner, who in his work with the Kayapó in central Brazil took the comparative analysis of production in a quite different direction from that developed by previous Marxian anthropology. Turner argued that "the definition of what counts as 'production' in any society is ethnographically inseparable from how it defines the need (or needs) that serve as the focus (or foci) of its productive activities" (Turner 2008:45). In capitalism, the alienated productive actions of social subjects are systematically pinned against each other in the form of market competition of individual capitals, which in turn produces the systemic compulsion for the ever-expanding valorisation. This ultimate systemic need

> … is on a different level from the more mundane needs for material subsistence and services satisfied by the commodities produced by capitalist firms. Rather, it is the structural necessity whose satisfaction constitutes the aim of all the productive activities comprising the capitalist system as a whole. *It thus (an important point here for anthropological purposes) reflexively becomes the criterion for defining which activities count as 'productive' and therefore as creating value in a capitalist economy.* (Turner 2008:45, my emphasis.)

Turner here is historicizing what is deemed to be the *object of production* in relation to which what is considered to be productive activity is defined in any given system of social action. In the case of the Kayapó, Turner argues,

> … social production, in the absence of markets and production of commodities for exchange (ie, of 'economies'), is concerned above all with the production of social persons and relations, and the social values attaching to them. The production of subsistence goods and services, while important, appears as an ancillary aspect of the process of (re-)producing social persons and the families and extended family relations that serve as the organizing framework of this process, rather than a distinct, separately institutionalized domain of production and exchange: that is, not as an 'economy'. (Turner 2003:11)

Turner here departs from the mainstream of Marxist anthropology, whose analysis of non-capitalist societies remained rooted in a notion of 'modes of production' more often than not

read in varyingly narrow economistic terms. In contrast, Turner's analysis draws on Marx's theory of value, a theory which for Turner provides an immensely powerful form of materialist symbolic analysis. The 'values' that reflexively define what sorts of activities are considered to be 'productive' in any given society constitute the symbolic mediations through which individual actions are oriented, and meaningfully integrated into an interdependent totality of practices. Value is the way in which *individual actions acquire social meaning* (Graeber 2001). Turner shows the main categories of social value among the Kayapó to be "beauty" and "power"; aspects of the identity of persons that are produced by the Kayapó system of social production, realised by particular persons in particular ritual settings, and to which its own mechanisms of exploitation are articulated (Turner 1984; Turner 2003; Turner 2004). Value(s) in this sense delineate and structure social worlds which are understood "not just as a collection of persons and things but rather as a project of mutual creation, as something collectively made and remade" (Graeber 2013:222). Turner's conception of value (linked to his anti-economistic yet materialist conception of production) in this sense functions in a manner analogous to that which Echeverría called 'social *telos*': it gives a definite form to society's relations of interdependence, and in turn constitutes the symbolic mediations through which individual actions acquire their social meaning and orientation. From this point of view, as David Graeber—a former student of Turner who took up the latter's largely unpublished project—points out, 'cultures' and 'societies' appear as projects for the pursuit of a particular forms of value (or, more commonly, a constellation of these); projects that by definition imply collective conceptions of both the meaning of human existence, and the nature of the world; ie. cosmologies (Graeber 2013).

These ideas open up new dimensions to Smith's thesis on the 'production of nature'. In the words of Echeverría (2014:27): "the confrontation of the subject with nature... [is] an indirect confrontation, mediated by the confrontation of the subject with its own sociability." Value is, in the sense developed by Turner, not only generative of cosmologies and conceptions of the world, but constituted by and generative of particular forms of social praxis, structuring the way metabolic relations are socio-symbolically mediated, and therefore, following Smith's argument, a pivotal moment in both the material and symbolic constitution of particular human ecologies.

Value, moral economy, and the contested production of nature

One of the relevant implications of Turner's approach is that value as an economic, quantitative, category and 'values' as moral-cultural "conceptions of the desirable" are to be understood as different refractions of a common process through which human action is confronted with its own social universe of meaning (Graeber 2001:78). As Graeber highlights, from Turner's project there emerges a conception of politics in which "[t]he ultimate stake … is not the struggle to appropriate value; it is the struggle to establish what value is" (Graeber 2001:88); ie. the determination of the meaning(s) of one's life-activity. For Graeber, values necessarily delineate and instantiate the imaginary totalities in which they are realised, albeit to a necessarily partial and fragmentary extent. These are social fields that constantly overlap: "[i]n any real social situation, there are likely to be any number of such imaginary totalities at play, organized around different conceptions of value" (Graeber 2001:88), conceptions from which particular worldviews emerge, moral expectations are formed, and claims about reality are made. Much of daily life, from this point of view, consists in the struggle, articulation, or otherwise knitting together of these different fields (see De Angelis 2007).

In the face of this view of society as a "thousand totalities", as Graeber puts it, it is however necessary to remain aware of the importance of the dialectics of struggle signalled by the antagonism of value and use-value. For Graeber, *contra* conceptions of our age as one characterised by the contingency, multiplicity, and proliferation of values, our current situation should be understood as above all "one in which the most gigantic, totalizing, and all-encompassingly universal system of evaluation known to human history came to be imposed on almost everything" (Graeber 2001:89). In this sense, the expansive movement of subsumption that characterises capitalism imposes upon multiplicity the dialectical dynamics of antagonistic binarization signalled by Marx's categories of value and use-value. As I will explore with more detail and empirically on Chapter 6, it is through this process that this necessary field of moral and cultural values that mediate relations among people, and of people and nature, comes to be expressed as what EP Thompson (1971) called a 'moral economy' which presents multiple resistances to the abstract logic of market forces, exchange value, and the commodity form. As Thompson (1993) suggests, the complex and variegated web of values, customs, usages, and moral expectations that mediate social reproduction only emerge as a more or less explicit 'moral economy' *in contrast* to the particular form of rationality entailed by the 'free market' and the commodity form.

In this sense, dialectics, rather than effacing multiplicity, is the awareness of the binary antagonism created by a totalising value system, and thus the negative character through which this multiplicity exists as a consequence of its subsumption (Holloway et al. 2009). The assertion of difference and multiplicity is not something that can be done theoretically—perhaps the ideological move of liberalism *par excellence*—, it must be resolved in (anticapitalist) practice.

Here is where it is necessary to return to Echeverría. In his reading, from the point of view of Marx's critique, capitalist modernity is

> ruled *simultaneously* by two structuring principles which are inherent to it; two coherences or rationalities in contradiction to each other: that of the mode or the 'natural form' of life and its world and that of the mode or the 'value form' … of the same. They are, in addition, two 'logics' in which the second, that of 'value', is permanently in process of dominating over the first, the 'natural', of 'subsuming' it. (Echeverría 2011:281, my translation)

For Echeverría, although permanently asserting its dominance, the process of abstract valorisation remains necessarily parasitic: as a purely abstract, 'spectral' inversion it cannot posit its own qualitative content, it is dependent for its anchors of meaning on the use-value dimension of the social life-process that it subsumes—what from Graeber's point of view is the field of 'values'. The ensuing concrete form of the life-process thus expresses the struggle between these two dimensions. The crucial task facing an inquiry into the political ecology of capitalist development is to understand this conflictual articulation, the torn existence of capitalism as a world-ecological project. This dissertation will now look at how this contradiction plays out through the expanding hydropower frontier in Chile.

3. Hydro(social)power and the energy frontier in Chile

> Utopias are necessary. But not only are they insufficient: they can, in some iterations, be part of the ideology of the system, the bad totality that organises us, warms the skies, and condemns millions to peonage on garbage scree.
>
> China Miéville, *The Limits of Utopia*

In this chapter I will look at the core political-ecological elements at play in contemporary geographies of hydropower in Chile—the historical configuration of their crisis tendencies, and of the new geographical strategies of frontier-making that have arisen in response. For this I will analyse the historical evolution of hydropower in Chile, understood here in its double register: both as a technology for electricity generation, and as one of the metabolic pivots for the (re)production of particular social hierarchies, and of the struggles through which these unfold historically—ie. 'hydrosocial' power (see Swyngedouw 2015; cf. Lohmann & Hildyard 2014). In the case dealt with here, this means analysing the ways in which hydrosocial power, and the hydrosocial cycle[22] more generally, became reconfigured in unprecedented ways through the neoliberalisation process that has shaped Chilean society over the last four decades. 'Neoliberalism' is here approached, following Harvey (Harvey 2005), as an eminently political (and ecological) project, the aim of which was the reconstitution, in wholly new terms, of a class hegemony that had been plunged into an unprecedented crisis during the early seventies. This 'counterrevolution'—and the new articulation of financialisation, extraction, and rent that characterised it—brought about a complete reorganisation of the socio-ecological configuration of the country's landscapes and the terms that mediated their integration into the capitalist world-system.

However, and given the questions guiding this dissertation, what I attempt here is not only to explore the ways this process created a novel socio-ecological articulation of power, but also to approach this process from the other direction: how it laid the grounds for new political

[22] The 'hydrosocial cycle' is concept emerging from political ecology which attempts to grasp the processes through which the flow of water across a landscape and social relations co-produce each other. This departs from the more traditional, purely hydrological, conception of the 'water cycle' in fundamental ways. In the words of Linton and Budds (2014:170) "[T]he hydrologic cycle has become the dominant popular means of representing flows of water in the hydrosphere. The hydrosocial cycle, in contrast, attends to the social nature of these flows as well as the agential role played by water, while highlighting the dialectical and relational processes through which water and society interrelate".

subjectivities and forms of resistance internally related to the particular form of capital accumulation that has characterised this period. In other words, I want to understand how the transformations brought about by the neoliberal period, and its internal crises, expressed a cycle of decomposition/recomposition of popular subjectivities, identities, struggles, and relations to nature. As I will show, attention to these dimensions is crucial to grasp the nature of the crises faced by hydropower in Chile, and the particular geographic fixes that the current frontier movements express.

For this analysis I draw on two important general ideas. First, the insight from the Marxist autonomist tradition regarding the *internal* nature of the relation between the particular composition—technical, political, *and social* (Notes From Below 2018)—of the working class and historical patterns of accumulation. Second, and relatedly, the idea of class as a relational *process*, which means that class—ie. the general social powers of labour the alienation of which constitutes capital—is an inherently mutable category whose cultural forms, particular revindications, and organisational practices shift according to the regime of accumulation they confront. In E.P. Thompson's words

> [T]he notion of class entails the notion of historical relationship. Like any other relationship, it is a fluency which evades analysis if we attempt to stop it dead at any given moment and anatomise its structure. (Thompson 1963:9)

It is this historical process which I will place at the forefront of the analysis presented here, as I think it sheds fundamental light upon the geographical phenomenon of the 'frontier space' which lays at the root of the kind of struggles this dissertation engages with.

The developmentalist state, electrification, and the hydro-social constitution of power.

In contrast to most countries in the region, Chile lacks significant fossil fuel reserves within its territory. The country is characterised, however, by an abundance of surface waters, especially in its southern half, where a great number of rivers make their relatively short and steep way from the Andean range into the Pacific Ocean. These conditions have historically placed hydropower at the centre of Chilean electrical systems (IEA 2018a; Bauer 2009).

The origins of hydroelectric power in Chile date back to 1897, when the country's first plant opened in Chivilingo to power the coal mines in the Lota mining district. During the first

decades of the twentieth century, the process of electrification of the country was mostly propelled by foreign and national private companies; an uneven and fragmented process that after intensifying during the 1920s, came to a sudden halt with the Great Depression (ENDESA 1993), which hit Chile particularly hard due to its links with the US economy. After years of economic and political turmoil, and as in other aspects of the national economy, this situation would eventually compel the state to take over the role of planning and development of the energy sector. Following the creation of the Corfo[23] in 1939, in 1943 the government created its energy subsidiary, Endesa (National Electricity Company). Endesa was to take on the task of implementing an ambitious national electrification plan, which placed hydroelectric power at its basis (Rudnick & Palma 2018). During the decades that followed Endesa would lay the foundations of not only the Chilean electrical system, but with it, of a crucial infrastructural aspect of the broader project of geographical national integration, and of the consolidation of the state's territorial and hydro-social power (cf. Swyngedouw 2015), through which the national-developmentalist mode of capitalist accumulation that characterised this period would be articulated.

Due to the central role that the plan ascribed to hydropower in the electrification of the country, regional systems would be first delimited on the basis of hydrological criteria (Endesa 1993). After a first stage in which Endesa developed these main regional electrical distribution and generation systems, those located in the central third of the country would in the late 1960s be integrated into the Central Interconnected System (SIC), which would supply 90% of the national population. The more isolated parts of the country, north and south, would remain under their own, largely thermoelectricity-based, systems (SING, SEA, and SEM). To generate energy for the SIC, Endesa developed numerous hydroelectric plants, dams, and reservoirs in the central and south-central parts of the country, which would later be complemented by coal and diesel-based thermoelectric plants. Hydropower, however, remained the basis of the system throughout this period: by the early 1960s thermoelectric capacity would only account for a third of that of hydropower in the SIC[24] (Bauer 2009), a dominant role that after reaching a peak during the 1980s, would only reverse from the 1990s onwards. This process of state-

[23] *Corporación de Fomento a la Producción*, [Production Development Corporation], is a government organisation, which during this period had the mandate of promoting and directing the industrial development of the country.

[24] Bauer (2009:612, note 97) reports that "By 1962 … the SIC had 12 hydro plants with a total capacity of 549 MW, compared to two thermal plants with a total capacity of 155 MW".

directed electrification would culminate in 1970, with the nationalisation of Chilectra, one of the main remaining private companies in the sector (Rudnick & Palma 2018).

Given the extremely uneven hydrological characteristics of the national territory—which consists in a gradual north-south transition between the extreme aridity of the northern regions to the humid southern parts of the country (see McPhee 2018)—, hydropower in Chile has always implied a rather lopsided geography, defined by the concentration of the population and industrial centres of energy consumption in the central third of the country, combined with a hydroelectric potential located mostly on peripheral areas of the southern half (Bauer 2009; see Ministerio de Energía 2015). In this context, as previously mentioned, the progressive hydropower-based electrification of the country at this stage implied a hierarchical geographical integration of the national territory through a grid system that transported electricity from a generating periphery to the consumption centres (*Ibid*.); integration that by the late 1960s was to be consolidated in the above mentioned establishment of the SIC (Endesa 1993).

In this way, the process of hydro-social deployment of the developmentalist state established some of the basic parameters of one of the various geographical scales in relation to which places such as Huife would negotiate their role and place—or lack thereof—in the shifting project(s) of national development: *the geographies of water as energy*. Through this process of hydropower-based electrification a set of lasting internal relations between the state's territorial power, this territory's hydrological characteristics, and the core-periphery dynamics of electrical generation and consumption were established and consolidated. These are some of the central elements of a geography of uneven development that can still be clearly discerned in current territorial conflicts such as the one that concerns the present study—for example, in the notion of 'development poles' introduced by recent legislation that has explicitly foregrounded the potential for energy production as a decisive factor in the integration of vast regions into the national economy (Ministerio de Energía 2018).

Energy, water, and the neoliberal counterrevolution

Crisis of hegemony and the neoliberal counterrevolution

This national-developmentalist phase would come to an abrupt and violent end in the early 1970s. The radical transformations in the ways water and energy articulated with the national configuration of power that would ensue expressed an unprecedentedly deep and radical

counterrevolutionary process through which the embattled Chilean ruling classes, in alliance with the hemispheric imperial interests of the US, reconfigured Chilean capitalism in ways that foreshadowed several aspects of what was to come at the level of the capitalist world-system as a whole. To understand the meaning that this reconfigured hydrosocial cycle had on the national field of power relations, a brief overview of the political circumstances that the neoliberalisation process responded to is necessary.

In 1970 Salvador Allende, heading the Popular Unity coalition (*Unidad Popular*, UP), won the presidential elections, opening the way for the 'Chilean road to socialism': a tumultuous, contradictory, inspiring, frustrating, and ultimately defeated political project that distinguished itself within the international geographies of contemporary socialist movements by its commitment to build socialism "within the framework of suffrage, through the use of current institutions, and in democracy, pluralism and freedom" (Garretón 1993:190). The UP government introduced a range of measures of lasting consequence; perhaps most crucially, the nationalisation of the mining industry[25], and the effective abolition of the traditional latifundia that had weighed over the Chilean countryside for centuries (Chonchol 1976). During the brief three years that the UP was in power, the Chilean social, economic, and political order convulsed under the throes of an unprecedented and forceful irruption of a contradictory popular movement into social, economic, and political spaces hitherto reserved for, and managed in accordance with, the interests of an increasingly anachronistic ruling class. The process unleashed social forces the revolutionary effervescence of which the UP government found itself in a constant battle to contain; all the while it attempted to push its programme through the steadfast opposition and obstruction of conservative forces, allied with the insidious imperialist intervention and boycott from the US (Gaudichaud 2017). The tension between the bureaucratic rhythms of the Land Reform and the accumulated grievances and urgent needs of a galvanized peasantry seemed to systematically boil over into autonomously organized land occupations—some of which resulted in violent clashes with landlords—, as in the cities the emboldened workers' movement both pressured and supported the government through factory seizures that quickly scaled up to the autonomous coordination of production through the famous '*cordones industriales*' (*Ibid*.). Both instances reflected a process of "revolution from below" that created considerable stress within the UP coalition, as it juggled its simultaneous commitment to constitutional order and socialist transformation (Winn 2004). The process would push the

[25] Codelco, the state's copper mining company, due to its strategic role in the state finances, was one of the few state enterprises that remained under public ownership after the sweeping privatization rounds that took place during the Pinochet regime. Mineral deposits, however, became wide open for foreign direct investments thereafter.

institutional structure of Chilean society to its political limits. This was expressed in a generalised political polarization of society which became further exacerbated by the economic dislocations brought about by the widespread social turbulence (*Ibid*.).

As it turned out, the 'Chilean road to socialism' fatally overestimated the commitment that both the military and the ruling classes held towards their own constitutional order. On September 11th 1973, a military junta backed by conservative political forces, and with the support of US intelligence agencies, seized power: within days, the constitution, civil liberties, and political rights were suspended. Chile would be for the next 17 years under a military dictatorship that would combine political authoritarianism and state terror—exerted by the military—with an extreme form of economic liberalism, designed and implemented by a group of Chicago-trained economists which would constitute the technocratic-civil wing of the government: the so-called 'Chicago boys' (Gárate Chateau 2012; Winn 2004).

At the metabolic basis of the economy, the neoliberal counterrevolution consisted of the subordination of landscapes to the almost unmediated determinations of the world market, which resulted in the reorientation of production from the import-substitution strategy (ISI) that had characterised the previous several decades, towards the (water intensive) industries of export-oriented agriculture and natural resource extraction, with mining at the forefront (Lara Cortés 2016). Of course, this transformation implied in the first place a complete overhaul of the agrarian structure in the Chilean countryside; an arena that, as previously mentioned, had been one of the critical sites of political dispute during the UP years. This overhaul was done through the deployment of the regime's signature combination of the iron fist and the invisible hand: on the political side, forced disappearance, extrajudicial executions, exile, and imprisonment and torture in detention camps, were amongst the measures used to finish off the political and peasant organizations that had spearheaded the agrarian reform process, in addition to worker organisations and left-wing political parties more generally (see Comisión Chilena de Derechos Humanos 1999). On the economic side, drastic unilateral reduction or outright elimination of tariffs and protectionist policies, agrarian counter-reform, and privatization of state agro-industrial enterprises were implemented (Kay 2002). The counter-reform gave part of the reformed land back to landlords, cooperatives were dissolved, and the remaining reformed land subdivided into family farms (Jarvis 1992). However, the agrarian structure that would ensue had little to do with the traditional pre-reform *latifundios*. Traditional production geared towards the domestic market rapidly deteriorated as internal demand fell due to sharp decreases in wages and increased unemployment owing to rapid deindustrialization (Kay 2002).

Coupled with competitive pressure from foreign subsidized production (US and Europe), the new conditions forced old landlords and peasants alike to sell land to more competitive, export-oriented capitalist producers (*Ibid*.). All these conditions thoroughly transformed the technical and social relations of production in the countryside: labour was violently disciplined through military means, while capital was submitted to the rigours of an unbridled and rescaled market.

The role of water and energy in the deployment of this political project is an issue that has been under-researched; somewhat strangely given both the above described metabolic characteristics of the neoliberal project—ie. those of a modernised rentier capitalism built upon natural resource extraction—and the attention that the chilean Water Code has otherwise received. Among the notable exceptions is the work of Jessica Budds (2013), which makes clear the crucial role that the process of commodification of water rights played in the consolidation of the sweeping neoliberal reform programme, on the formation of new set of power relations premised upon the radical reconfiguration of the economic basis of Chilean society, and the final consolidation of a new hegemonic bloc through the democratic transition process during the nineties. The issues dealt with in this study, however, demand us to approach this recomposition of class rule from the other side: how the commodification of the hydrosocial cycle reflected the process of political and technical *decomposition* of the country's working classes—urban and rural—which would eventually set the terms for a long process of recomposition of new forms of antagonism and subjectivity, forms internal to the concrete socio-ecological unfolding of the neoliberal project. We will return to this issue further below, given that, as I will explain, it rests at the heart of the contemporary 'energy crisis' that lies behind the expansion of the hydropower frontier that this dissertation is concerned with. But first we must turn in more detail to the way in which the neoliberalisation process impacted the water-energy nexus—which, as previously explained, had developed in the previous period as one of the main pivots of hydro-social power in Chile—and how the energy question in general has evolved during the neoliberal era towards the contemporary impasse.

Water, energy, and neoliberalisation

The legacy bequeathed to the Pinochet regime by the previous decades of state-directed electrification mainly consisted of the recently consolidated SIC, founded on hydropower, and vertically integrated and managed under the aegis of the state-owned Endesa. As it was the case with almost every other aspect of Chilean society, once the initial power scuffles over which

policy orientation the dictatorship would take were settled in favour of the agenda of radical neoliberalisation (Gárate Chateau 2012), the aim of the new regime would be to make this centralised system—born in the image and likeness of the developmentalist state the government was set to dismantle—dance to the tune of market dynamics; a feat that at the time had no international precedent (Endesa 1993; Büchi 1993; Budds 2009). Due to the preponderant role of hydropower in the electricity sector, which by the late 1980s would peak at over 80% of the country's generating capacity (IEA 2018a), this process called for a radical intervention in the water-energy nexus, to be established in a new institutional order.

One aspect of these transformations would be those introduced by the 1981 Water Code, to which I will turn in more depth in Chapter 6. Suffice to say here that the new code introduced freely tradable private property rights over water use separate from land (granted freely and in perpetuity to those that requested them); rights which, crucially, distinguished between consumptive and non-consumptive rights. The latter—which demanded the reincorporation of water back into the source—would be the legal form upon which hydropower pivoted; many times in tension with, if not at the expense of, the interests of those holding consumptive rights, and, even more acutely, of non-consumptive or in-stream non-commercial uses and relations to water, which find no adequate representation in the Water Code[26] (Prieto & Bauer 2012). In the electricity sector, the neoliberal agenda would unfold in two phases: one of marketisation, and a subsequent one of privatisation (Bauer 2009). First, in 1982 the new Electricity Law was decreed, which aimed to restructure the sector in such a way as to introduce market dynamics into the system's operation and development. This implied rolling back the vertical integration of the subsectors of generation, transmission, and distribution, in which, due to their respective technical characteristics, market principles would have to be applied differently[27] (*Ibid*.). According to Bauer (2009), one of the things that characterises the Electricity Law's relation to water is that within the regulatory and price-setting mechanisms it establishes for the generation subsector, water figures centrally as 'stored energy', mainly through the strategic role the reservoir system has in regulating supply. One of the consequences of this is that the price attributed to water-as-energy is defined by the opportunity costs it has, stored in reservoirs, in relation to alternative generation costs, which fluctuate with hydrological conditions. Thus, Bauer notes, "[t]he price of water, in other words, depends on the costs of energy and on hydrological estimates, but it does not reflect other demands or uses for water"

[26] These have been in fact further marginalised by the subsequent modifications introduced to the Code in 2005, which imposed a tax on non-use (ie. non-economically productive use) as a way of disincentivizing speculation. See Chapter 6.

[27] For a detailed account of Chile's Electricity Law see Bauer 2009:615-626.

(2009:624). This implied an institutionally prescribed predominance of the water-energy nexus in relation to other aspects of the hydrosocial cycle; in practice, according to Bauer (2009), it is the Electricity Law that regulates watershed management in the country (cf. Prieto & Bauer 2012).

The bulk of the privatization phase took place during the last years of the Pinochet dictatorship, although it was only completed by the late 1990s. Once the restructuring of the sector along market lines was complete, state-owned Chilectra (and to a very limited extent Endesa) were partially subdivided into different companies which would operate within the different sub-sectors (generation, transmission, and distribution), and then be sold to private investors, the core of which corresponded to groups with close political (and even kinship) ties to the regime (Monckeberg 2015; Budds 2013). This was part of a wider process of privatization of state assets that reached into every sector of the economy, and, as Budds (2013) notes, cemented the post-dictatorial political influence of the technocratic cadres of the Pinochet regime through their direct control over the key sectors of the Chilean economy[28] (see Monckeberg 2015).

Although the vertical integration of the sector had been partially rolled back, the newly privatised companies still exerted an overbearing control over the different sub-sectors of the system, most notably Endesa, which after privatization, remained largely in control of most of the infrastructure and studies that had been produced by almost half a century of public investment, in addition to the company's water rights, which at the time constituted the vast majority of the total non-consumptive rights in the country (Larraín 2010). If by the early nineties the main result of this first phase of the privatization process had been the transfer of the bulk of the country's electrical infrastructure to mainly national groups and individuals politically aligned to the then departing regime (Budds 2013), this would change during the ensuing decade, as these groups would sell off the majority of these companies' shares to transnational capital. In the case of Endesa, the majority of its shares were acquired in 1999 by Endesa-Spain S.A., and again sold years later to the Italian-owned ENEL (Larraín 2010).

[28] The extent of this influence would be attested by a series of corruption scandals in the past few years, were, for instance, SOQUIMICH, one of the country's main mining conglomerates that upon privatisation had come under the control of Pinochet's son-in-law, was revealed to have an extensive network of influence across the post-dictatorial political spectrum, articulated through illegal finance of campaigns, bribes, and other methods (Ramírez 2015). SOQUIMICH is by no means is an exception, but in all likelihood the tip of the iceberg of the informal networks that underpin the hegemonic bloc that was consolidated after Pinochet left power, the roots of which can be traced directly to the privatisation process.

By the turn of the century, it was abundantly clear that the process of neoliberalisation, in contrast to what was originally allegedly envisioned by its ideological architects—ie. getting the energy sector to function according to the 'politically neutral' logic of market competition (see Büchi 1993)—had led to an oligopolistic system in which three transnational companies held a firm grip on the generation sector as a whole. In 2009 (p. 142), the IEA reported that

> Thirty-five generation companies currently operate in the SIC. But the market is concentrated with almost 90% of the capacity belonging to three large holding companies: Endesa, AES Gener and Colbún. Endesa alone owns 50% of the SIC total installed capacity as well as 75% of water rights, while Colbún and AES Gener own another 40% of total installed capacity. Six generating companies currently operate in the SING. Again, the sector is concentrated: three companies (AES Gener, Gas Atacama and Suez/ CODELCO) own almost 95% of the SING total installed capacity.

The changing geography of energy in the post-dictatorial period

Beyond hydropower, one of the defining aspects of the post-dictatorship period was the rapid expansion of overall generation capacity—mirroring the fast rates in GDP growth that characterised this period—, an expansion that from the second half of the 1990s onwards became heavily reliant on fossil-fuel based thermal generation, in particular on new Argentinian gas imports, which upon arrival would cut electricity prices by as much as 50%, and shift almost all new investment into gas thermal plants (Fuentes et al. 2015). If by 1997 coal and oil based thermal generation had already reached just below 40% of the total (IEA 2009), as cheap natural gas began to flood the market, gas-based generation capacity grew even more rapidly, from 1% in 1997 to 33% in 2004 (*Ibid*.).

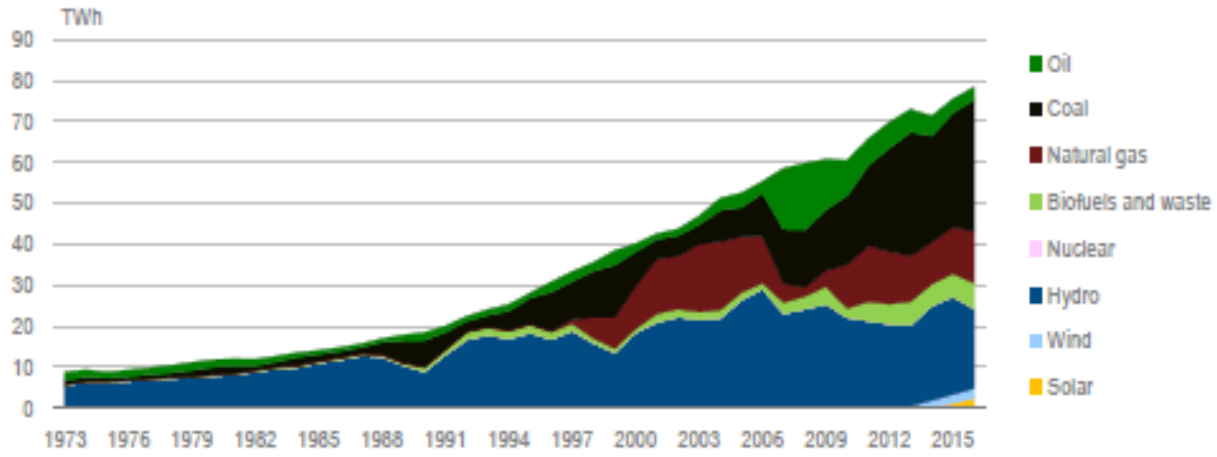

Figure 11. Electricity generation by source from 1973 to 2016, taken from IEA (2018:87).

This shift implied important transformations in the country's energy geographies. As Andreas Malm has pointed out in his historical study on the origins of fossil capital (Malm 2016), fossil-based energy has particular characteristics that makes it especially amenable to the requirements of capital accumulation; namely, it provides a spatio-temporal flexibility that other energy sources lack. And hydropower surely presents major relative political and geographical challenges. As mentioned previously, hydropower in Chile is bound to the country's very uneven distribution of water resources, and its hierarchical integration through large scale infrastructure and under the aegis of notions of national sovereignty that bear the weight of a remarkably violent history, and thus find uneven purchase across some of the country's hydrologically rich areas. This is particularly true for the areas in which the most accessible hydropower potential is concentrated (Ministerio de Energía 2018), namely the south-central region, where state sovereignty was originally constituted through a genocidal campaign of military occupation and dispossession of indigenous lands—the memory of which still lingers in the region's fraught social fabric, and its consequences evident in its characteristic forms of racial capitalism[29] (Pulido 2017) and its associated indigenous struggles for territorial and cultural reconstruction (see Chapters 4 and 5). I will return to these political aspects of hydropower in more detail below, and throughout this dissertation. Nevertheless, in the case of Chile, the geography of a fossil-based generation system running on imports has proven to be no less problematic and uncertain. This was most acutely felt in 2004, when—after several years in which the sustained expansion of Argentinian natural gas in the energy mix had almost reached the point of dependency—, the Argentinian government, still battling with the the aftermath of the economic implosion the country had faced a few years earlier, took the decision of unilaterally restricting its exports to Chile in an effort to stabilise internal supply, creating an important trans-andean energy and diplomatic crisis (Huneeus 2007). As a consequence, according to the IEA (2018a:86),

> the natural gas supply in Chile decreased significantly in 2007 and its share in electricity generation dropped by 60%. To make things worse, Chile had a drought in 2007-08 in the central-south region, which reduced hydropower supply by 20%, or 6 TWh.

One of the effects of this situation was the rapid growth in both coal and oil-based generation, which implied, between 2003 and 2008, an increase of 77% in CO2 emissions from electricity generation (IEA 2018a). By 2016, when the fieldwork for the present study was carried out, Chile had developed a generation system strongly based on fossil-fuels: 61% of the generation mix

[29] I.e. forms of capital accumulation which directly depend on the racial subordination of a particular group of people (Pulido 2017).

was fossil-based, 25% was hydropower, and the remaining was accounted mostly by biofuels and waste, complemented by a rapidly growing, but still minoritarian, share of wind and solar (*ibid*.). Coal had at this point become the largest single source of energy by far, accounting for 41% of the total (*ibid*.).

The Chilean energy crisis

This situation has led to a protracted and politically resonant 'energy crisis' in Chile. After soaring at the peak of the gas crisis, and fluctuating strongly for a decade, up until 2016 electricity prices had not regained their pre-crisis levels (IEA 2018a), while at the same time investment in the sector stagnated. Although net electrical generation had increased dramatically since 1990, its growth rate had steadily fallen in the period between 1990 and 2010, and investment appeared to have increasing trouble keeping up with an ever growing demand fueled by the commodity boom (Corbo & Hurtado 2015). As the problem was dragged on from administration to administration, for Chilean elites it became increasingly clear that the electricity matrix was not fit for purpose, and talk about the 'energy crisis' the country faced began to make the rounds with increased frequency in mainstream media and political discourse. Reports were commissioned, think tanks mobilized, alarms raised, and fingers pointed from each side of the political spectrum. Perhaps most worryingly for the political elite, all of the most important organisations representing business interests at the national level repeatedly expressed their frustration in the media at the way high electricity prices were blunting the competitive edge of businesses operating in Chile[30]. Energy scholars Rudnick and Palma thus state that by 2014, when Michelle Bachelet took office for the second time, "there was a transversal national consensus on the fact that a crisis was being faced in the electrical development to provide for the needs of the Chilean economy" (2018:19, my translation).

This crisis reached at the core of the political economy (and ecology) of the Chilean neoliberal project. Built as it is on the basis of the studious subordination of the country's landscapes to the place accorded to them in the international division of labour[31]—in this case as a source of cheap raw materials; with mining, and copper in particular, at its centre—, the

[30] See for example the various statements expressed in a 2013 article published in La Tercera, one of the main national newspapers (Pérez-Cueto & Astudillo 2013).

[31] Chile is one of the countries with most trade agreements in force, currently counting at 26. See the website of *Dirección General de Relaciones Económicas Internacionales* (Dirección General de Relaciones Económicas Internacionales n.d.).

Chilean political ecology, as that of much of the wider region, is deeply entangled with the trans-pacific metabolism that has grown phenomenally during the twenty-first century around the Chinese industrial juggernaut (see Arboleda, Forthcoming). It is worth recalling that Chile is the main global copper producer, accounting for 27% of global supply, of which China consumes 50% (Consejo Minero 2018). This world-historical metabolic shift towards an Asia-centred capitalist world-system has, if anything, reinforced the basic role raw material exports—ie. the structural role of ground-rent (Caligaris 2016)—in the Chilean economy, originally envisioned in the language of 'comparative advantages' by the 'Chicago Boys' in the eighties, as Lara Cortéz (2016:129, my translation) notes:

> … the growth in trade with China is immediately responsible for the mutations occurring in the export structure and the production model of the Chilean economy: it reinforces the reprimarization of the export sector, strengthens the importance of mining, and now, contributes to the decline of the manufacturing industry, especially the one dedicated to the production of consumer goods.

Thus, in 2017 mining exports accounted for 55% of the country's total, and represented an average of 14.9% of national GDP over the past decade, as well as being the most important sector of foreign direct investment, and traditionally one of the strategic sources of fiscal income (Consejo Minero 2018). The structural importance of mining, and copper in particular, is reflected in how the latter's international prices are closely linked to the general profit rates of capital operating in Chile (Maito 2012). Regarding energy consumption, taken together, mining and industry consume 64% of the country's electricity, with copper mining in particular accounting for around 30% of the national total (Consejo Minero 2018). This energy consumption currently accounts for around 10% of the industry's operational costs (*Ibid*.), which, according to a recent industry report (EMIS 2016:49), are steadily rising as "the reduction in copper ore grades combined with the hardening of the mineral increased the energy usage for ore extraction by 35.8% per unit of copper content over the period 2010-2015".

This is why, for mainstream economists looking at Chile's 'energy problem' such as Corbo and Hurtado (2015), the increasing inadequacy of the Chilean electrical system is crucially expressed in the fact that, relative to other structurally important producers of copper in the world market, Chilean electricity prices are inordinately high. In 2015 they projected that in 2020 the cost of electricity for the mining industry would be almost twice as much as that in Peru, and 60% higher than in the US. Thus, although extractive activities still report extraordinary rents for transnational mining corporations (see Sturla Zerene et al. 2018), if the sector is to increase or

sustain its competitive edge over the long term, electricity costs must come down—something that for the past decade the electricity matrix in Chile has been incapable of delivering.

In the light of this, and given the pervasive acritical naturalisation of the notion of 'energy scarcity' in media representations, hegemonic political discourse, and mainstream academic literature, it is important here to underscore that the crisis of 'cheap energy' (Moore 2015) in Chile *emerges relationally from the competitive pressures and growth expectations that drive the planetary valorisation circuits of extractive capital*—circuits which in Chile find their national political articulation in the form of the neoliberalisation process, and its associated cycle of class decomposition/recomposition. The response to these conditions have thus to be understood as an aspect of what Massimo De Angelis (2007:40) terms the 'conatus' of self-preservation of capital in the face of its constitutive strategic challenges.

Bearing this structural determination of energy scarcity in mind, there were several conjunctural triggers for this crisis of cheap energy. The immediate one was the already mentioned dependence that had developed between 1995 and 2004 on Argentinian gas imports, the curtailment of which exacted upon the system a 400% rise in the marginal costs of electricity between January 2007 and March 2008 (Corbo & Hurtado 2015). The ensuing deepening of dependence on alternative fossil fuels, such as coal and diesel, left the electricity sector vulnerable to the steep rise in the prices of these commodities during the very period in which gas was being limited: between 2003 and 2008 the price of diesel rose by 500%, while coal rose by approximately 800% (*Ibid*.). On the other hand, the traditional hydropower base of the system started to be subjected to considerable stress around the same time, as a still ongoing 'megadrought' with no regional precedent in at least a millenium began to take its toll on the whole of the south-central region of the country from around 2010 (Centro de Ciencia del Clima y la Resiliencia 2015; Garreaud et al. 2017; Garreaud 2018). This has greatly impacted the system's hydroelectricity generation capacities: stored water-energy in the system's reservoirs steadily plunged (Rudnick et al. 2014), as well as its relative contribution to the total generation mix, and has opened up the question of what the future of hydropower might be in the context of the current and future regional effects of climate change.

Crisis of cheap energy, the ecoterritorial turn, and the political recomposition of social limits

Nevertheless, the direct consequences of all of the above mentioned conditions (structural and conjunctural) were rising prices and a secure projected demand, both of which should, in theory, attract investment. The crucial question hovering over the 'energy crisis' was, in this sense, the failure of investment in generation capacity to keep up. In 2013 a report on this issue commissioned by the Confederation of Production and Commerce[32] stated that:

> In contrast to previous episodes of investment deficit, this one does not originate in regulatory failings that disincentivize investment. On the contrary, the regulatory framework, macroeconomic and sectoral, and the attractive price conditions have generated great interest to invest. … What is happening is that realising projects is increasingly harder and costly due to the increasing environmental and citizen opposition they face. In the best of cases projects get done with long delays ... other times these are paralyzed completely by decisions of the Executive or Judicial Power. … The judicialisation is a growing phenomenon, that affects all kinds of projects—big and small, thermal and renewable—in all of the territory, which is making projects more expensive, generating juridical uncertainty regarding environmental qualification resolutions, investment delay, and, in some cases, even their cancelation. (Bernstein et al. 2013:3, my translation)

Indeed, by that time, conflict was an issue that had become almost inevitably associated with the energy sector in general—any energy project could reasonably expect to have to face local, at times national, opposition, which could often throw a project into a morass of lawsuits and challenges. Report upon report on the pressing issue of 'stalling investment' seems to reach similar conclusions, in which much of the problem lies in "the emergence of demands that, in previous years, were not expressed openly or massively", as a report by the Institute of Engineers put it (IIC 2016:7). In 2012 Bernardo Larrain Matte, at the time president of Colbún—one of the three main hydropower companies—succinctly described to a seminar of industrial and business representatives the nature of the challenges he faced in the appropriate argot:

> The problem [in materialising investments] is on the *non-market* context. We have seen how different campaigns have been organised against different generation initiatives: a wind farm in Chiloé, a run-of-the-river plant in Achibueno, the HydroAysén project, and

[32] *Confederación de la Producción y el Comercio*, CPC, the country's main organisation representing business interests on all sectors of the economy.

> thermal plants in the III and IV region. Maybe tomorrow we will witness a campaign on 'Atacama Desert without Solar Panels'[33].

This problematic *non-market* element is something that would have scarcely surprised Karl Polanyi, who already in 1944 famously described how the relentless expansion of commodification upon land and labour (and, here one might add, water) can only unfold as a 'double movement' in which this encroachment is at every turn shadowed and confronted by a countermovement fueled by the imperative of protecting social reproduction from the tempest of market forces (Polanyi 2001 [1944]); a countermovement that can take multiple social forms across history. In this case, the keystone of the water-energy-mining nexus that underpin extractive operations in Chile is the above mentioned 1981 Water Code, which made water rights a tradable commodity separated from land. As previously mentioned, the commodification of the hydro-social cycle—ie. the enclosure of the country's waterscapes—must be understood as a crucial political-ecological dimension of the national process of class rule recomposition; the flip side of the violent decomposition of the working classes upon which the new, neoliberal, accumulation strategies were premised. This obliteration of the political and material capacities for popular territorial control against capital enabled the Chilean neoliberal experiment to introduce an unprecedented variation on the old Wittfogelian problematic of the relation between power and water[34]: a form of hydrosocial power the totalitarian nature of which resides precisely in the way it regards itself as being beyond politics, in the purportedly 'apolitical' realm of market transactions (eg. Büchi 1993). Unsurprisingly, the almost unmediated identification of the control over the waterscape with the control over money and capital has had the effect of concentrating water rights across the country (Larraín 2010), a fact that lays bare the class dimension of this postpolitical articulation of hydrosocial power. This class power is mounted upon the way in which, at least in theory, exchangeability and separation from land titles allows for the law of value to mould the hydrosocial cycle to a larger extent that had been hitherto possible: in addition to gravity, water flow was to follow value determinations as close as possible—it would, its proponents argue, flow into its 'highest-value uses'[35] (Briscoe 1996); in effect, mining, export agribusiness, and hydropower (Larraín 2010). Needless to say, the innumerable use values that water acquires as it flows through the

[33] Translated from an article in the national newspaper, El Mercurio (Herrera 2012). In his last example, he is making reference to the name of the high-profile campaign against the patagonian megadams, 'Patagonia sin Represas'.

[34] On the analysis of this problematic in other contexts, see for example Worster 1992 and Swyngedouw 2015.

[35] But see Prieto 2016 for an account of how in practice the vernacular use values of water often distort this process.

concrete lives and relations that make up the hydrosocial cycle and social reproduction find no effective representation or recognition in this context.

However, far from doing away with class antagonisms and the inherent politicity of the hydrosocial cycle, neoliberalisation only set new terms for their recomposition in novel forms—a growing social conflictivity that the neoliberal institutionality has demonstrated to be completely unable to process effectively, and has steadily grown to become a nationwide political problem (Bauer 2015); Larrain 2010). As if under a Polanyian curse, the neoliberal state has found itself faced with a hydrosocial cycle characterised more by conflict than by the world of efficient market transactions it was meant to oversee—indeed, unlike the former, the latter have shone by their relative rarity and geographical confinement to particular river basins and hydrological conditions (Baeza Gómez 2018; Bauer 2004). As Carl Bauer notes, during the period since 2005—when the Water Code was superficially reformed, and the energy crisis was beginning to take shape—"water *conflicts* became the dominant theme in debate rather than water *markets*, which had been the dominant theme since the 1990s" (Bauer 2015:159). This lack of effective institutional mediation of the problematic 'non market' element Larraín Matte alluded to—a consequence of the exceptionally radical nature of the Chilean neoliberal reforms, internally related to the effacement of the political by the authoritarian state—, has led to the often mentioned phenomenon of 'judicialisation' in which investment projects frequently become entangled. In a more abstract sense, all of this is hardly surprising given the neoclassical conceptions of social value—ie. 'aggregate utility'—that underpin the neoliberal institutional field, which rest on the spurious ideological conflation between the value that water acquires by virtue of its quantitative fungibility in the market economy and the multiple use value(s) it acquires through its embeddedness in social reproduction and its mediating cultural forms and moral economies—ie. the conflation of water's exchange-value and its use value[36] (cf. Badeen & Murray 2016; see Chapter 2), a cleavage that constitutes the very structure of the commodification process, and underlies the hydrosocial constitution of class power. The commodification of the waterscape has in effect extended and intensified this basic contradiction across the hydrosocial cycle, which, due to the lack of effective institutional

[36] Eg. "The value of water to a user is the maximum amount the user would be willing to pay for the use of the resource" (Briscoe 1996:5). From the neoclassical perspective that underlies the Water Code (and pretty much every other aspect of the model designed by the Chicago Boys), there is in principle no reason for the market not being able to express the social value of water adequately, as the market is understood to be merely the aggregate expression of individual choices ideally converging in aggregate utility maximization: "[F]or society as a whole, welfare is maximized when:
- water is priced at its marginal cost and
- water is used until the marginal cost is equal to the marginal benefit." (Briscoe 1996:4)

mediation, is now expressed politically in the systematic conflict that now characterises the hydrosocial dimension of the Chilean neoliberal order.

This has led to the gradual convergence of many territorial struggles across the country around the issue of water. In 2010, Sara Larraín, a prominent Chilean environmentalist, wrote in the introduction to a national compendium of water conflicts in Chile that

> In this context [of the concentration of water rights in the extractive economy], there have emerged over the last years multiple water conflicts, which in the northern region mostly pit indigenous and peasant communities against mining. In the central region, it confronts local communities and peasants against agribusiness, water companies, and hydropower. In the southern region, agriculturalists, tourism enterprises, fishers, and indigenous communities confront mainly the pulp industry and hydropower. All of these conflicts … have created many organisations; and recently a national articulation for the defense of water, constituted by social organisations, indigenous organisations, unions, churches, agriculturalists, consumers and local communities affected by overexploitation, scarcity, or pollution of water and the natural systems that harbor it. (Larraín 2010:37-38, my translation)

Thus the dialectical unfolding of the neoliberal regime of accumulation has in this sense outlined a geography of struggle in which socio-ecological spaces appear torn between two *internally related* dimensions: the operations of a globally articulated law of value (expressed in the relative supremacy of the geographies of ground-rent and the related operations of extractive capitalism), and the multiple layers of a use-value dimension that through concrete practices of dwelling (Ingold 1993) make of these spaces places of meaning, identity, history, and futurity—i.e. give socio-ecologies their cultural forms and definite social meanings. In this context, and given the institutional incapacity to mediate this contradiction, the demand for the recuperation of water as a 'common good' has emerged as one of the broadest unifying elements around which the antagonisms immanent to the ecological dimensions of the neoliberal order have become recomposed over the past few decades (see Larraín & Poo 2010; cf. Budds 2018).

The energy sector has been particularly significant in this process. Not only does it concentrate, according to the National Institute for Human Rights (INDH)[37], the largest proportion of socio-ecological conflicts in the country with 38% of the cases they have registered, but it has also been the arena for some of the most emblematic and politically

[37] See the INDH map of environmental conflicts available at: https://mapaconflictos.indh.cl/ (Instituto Nacional de Derechos Humanos n.d.)

resonant struggles of the past decades. First, the case of Endesa's Ralco hydropower dam on the Bio-Bío river was particularly significant, as it involved one of the earliest and most protracted struggles—which stretched throughout the 1990s and into the early 2000s—and directly involved the thorny issue of indigenous rights in Chile, as it flooded thousands of hectares of indigenous lands, displaced several communities, and destroyed burial grounds (Orellana 2005). This struggle was notorious for several reasons. In the first place, it laid bare the deep entanglements between the political ecology of neoliberalism and the racially-mediated oppression of the Mapuche people: in it the government exerted considerable pressure to get the project approved despite its dubious legality, in effect establishing the preeminence of the Electricity Law vis-a-vis the guarantees that the Indigenous Law gave for indigenous territories (Namuncura 1999). Furthermore, the state applied the infamous Antiterrorist Law—inherited from the Pinochet dictatorship—to imprison Mapuche leaders who had participated in direct actions against the project (El Mercurio 2002). Although ultimately lost—the dam entered into operation in 2004, turning the valley into a lake in which, tragically, one of the most visible local Pehuenche leaders of the resistance, Nicolasa Quintreman, would drown in 2013[38]—, the struggle played a very important role in placing the issue of Indigenous rights in the national debate, exposing with unusual clarity the racist underpinnings of the Chilean neoliberal project and its associated modes of statecraft, and in contributing to the experience, consciousness, and articulation of both the indigenous and socio-ecological movements and organisations that had converged in the resistance.

The extent to which these front of struggles matured over the ensuing decade, how they had managed to gradually make significant gains on the cultural and political terrain, I think is illustrated by another high-profile struggle around hydropower—that concerning the HidroAysén mega-project. HidroAysen was a joint venture by Endesa and Colbún, which, had the project materialised, would have ended up controlling around 80% of the national electricity supply. It involved the estimated investment of 3.2 billion dollars in five hydropower plants in the Aysén region of Chilean Patagonia, which would generate around 2750 megawatts of electricity (Romero Toledo 2014; Reyes Herrera & Rodríguez Torrent 2015). This made it the biggest energy project in the history of the country, without even taking into account the transmission infrastructure that it implied, which would have stretched 2400 kilometres to connect the hydropower plants to the SIC—one of the largest electrical transmission lines in the world (*ibid*.). This project was confronted with an unexpectedly broad opposition, which in

[38] See Osses 2013.

2011—after the government provisionally approved the project—brought between 50,000 and 100,000 people to the streets in Santiago, the opening salvo in the intense cycle of mobilisations that year that would be led by the student movement and its demands (Zibechi 2012a). The daily newspaper La Tercera reported in that same year that 73% of the population opposed the project. In part due to the place that the Patagonia region has in the international geographies of conservation and tourism, and the associated alliances and resources that this gave the opposition movement, the struggle upscaled to the international arena with unexpected resonance[39]. At a local level, opposition to this project articulated with long-standing grievances around the marginalisation, neglect, and political disenfranchisement of regions such as Aysén, which in February and March 2012 exploded into a broad and spontaneous social movement that blockaded access to the main cities, repeatedly clashed with the police, and raised several demands that aimed to redress the neglect of local economic conditions on the part of the central government (Zibechi 2012b; Cuadra Montoya 2012). After the conflict dragged on for several years, in 2014, the incoming government of Michelle Bachelet rescinded the project's approval, and in 2017 the companies behind the project finally desisted and declared the end of the project.

What these cases show is how the particular antagonisms expressed in socio-environmental struggles in general—and those related to energy in particular—have frequently overlapped and articulated in complex ways with the multiple grievances that the Chilean neoliberalisation process has left in its wake; in the above cases, those related to indigenous specificity vis-a-vis the state and the neoliberal economic order, and the local hardships associated with the neoliberal intensification of processes of uneven geographical development expressed in the concentration of economic and political power in Santiago and its elite, and the relative erosion of regional economies and their political capacities for self-management. Also, when these conflicts manage to break into the national scale, the projects in question are forced to enter an ideological battle over the public perception of whose interests are served by them, in a cultural field marked by an intensifying climate of delegitimation of political and economic elites (Ruiz Encina 2015). This was an issue that was clear enough in the cultural battle waged around HidroAysen: in it, both sides symmetrically framed the issue around opposite mobilisations of the notions of 'common good' and 'particular interests'—a constestation

[39] For instance, in 2011, the New York Times published an editorial characterising the eventual construction of the project as an "irreparable mistake". See The New York Times 2011

project supporters had difficulty winning, as proven by the sustained majoritarian opposition to the project[40].

In this sense, and in general terms, these struggles are fueled by the ways in which the expansion of extraction frontiers articulate with and add to the long-standing and complex texture of grievances that constitute the Chilean geographies of uneven development. One of the characteristics of this historical moment—not only in the case of the Chile, but indeed throughout the different national modalities of what Maristella Svampa has called the 'commodity consensus' in the region (Svampa 2012)—has been the positioning of the eco-territorial dimensions of accumulation as one of the most dynamic fields for the political recomposition of social antagonism, as the extractive economy effects new forms of political subjectivation on the territories it is deployed (*Ibid*.). As the experience of both defeat and victory accumulate in organisations and social relations, as alliances and networks are consolidated and analyses mature, and as cultural and political terrain is gained and broader bases for solidarity are solidified in both consciousness and practice, these movements increasingly constitute themselves as an eminently *political* limit within global capitalism's regions of extraction (cf. Webber 2014).

In 2015, the Latin American Observatory of Environmental Conflicts (OLCA) organised a gathering of over 40 organisations emergent from different socio-ecological struggles from all over Chile, which shared the common aim of "overcoming extractivism" (OLCA 2016:4). In it, these organisations discussed what they considered had been the main advances in their struggles throughout the years. Among the issues listed (OLCA 2016:6-23) were:

- The consolidation of the demand for "water as a common good" as a central element in all their struggles, and the positioning of this issue in the national debate.
- Substantial gains in the development of local experience, knowledge, and support networks for the use of the legal institutionality and administrative processes to defend their territories, and to place their demands on the regional, and at times national, agenda.

[40] The campaign in favour framed the issue around how the project aimed to address the energy needs of the country as a whole, and how opposition to it was being funded by many foreign organisations and actors with no interest in the country's development. The campaign against it, on the other hand, highlighted the issues of monopoly control over energy, and of Patagonia's exuberant nature as a common heritage threatened by the narrow commercial interests of energy monopolies (cf. Romero & Sasso 2014).

- The growing density of the network of alliances that support struggles. These have been distinctly multiscalar, and include alliances with local organisations such as Neighbours Councils, social movements addressing other social demands at a national level—such as students—, international organisations which can take the struggle to the countries of origin of extractive interests (as in the case of Canadian mining companies), and the building of regional or watershed-based networks. All of this has given local struggles the capacity to circulate across different scales, and counteract their confinement to the local scale (see Svampa 2012).

As one concrete example of this growing density, the meeting also highlighted the important role that the national network "Social Movement for the Recuperation of Water and Life" [*Movimiento Social por la Recuperación del Agua y la Vida*] has played in coordinating a very wide range of conflicts across most of the country, organising national meetings, and organising demonstrations in different cities, always placing the issue of water as a common good at the forefront[41].

This illustrates just one facet of a long process of political recomposition internally related to the form of rentier capitalism that characterises the 'commodity consensus', a more complete picture of which would require an examination of its internal relations to urban movements, the expansion of the role of debt in social reproduction, precarisation of labour, rural semi-proletarianisation, and the different aspects that characterise the general social composition of the working class under neoliberalism. Here, however, it is important to understand how this aspect of the process political recomposition attempts—and to some extent has achieved—to constitute itself as a *social and political limit* to the pressures placed by extractive accumulation upon social-ecological reproduction at the extractive frontier. And it is this is process which appears, in fetishised terms, as a crisis of 'cheap energy', and low sectoral investment rates.

Energy revolution?

In 2014 Michelle Bachelet assumed power for the second, non-consecutive, time. The previous government, headed by right-wing billionaire Sebastián Piñera, not only had to face the apparent defeat of HidroAysen in the arena of public opinion, but more generally, in 2011, his

[41] Indeed, I had the opportunity to attend one of this network's meetings and a demonstration in Temuco during my fieldwork, in early 2016.

government had to deal with the most intense cycle of social mobilisations since the end of the dictatorship, which triggered a protracted crisis of hegemony that has not been politically resolved to date. Led by student organisations, the movement was able to articulate the material experience of mass indebtedness and the misery of public education in a clearly anti-neoliberal direction, which managed to break the ideological levee and place under public discussion some of the basic tenets of the neoliberal project that dominated the country for almost four decades. Bachelet tried to capitalise on this social discontent, and through broadening her coalition to the left (it notably brought in the Communist Party, which included some of the most emblematic student leaders among its militants), her campaign presented a programme of reforms that promised to address some of the demands that the mobilisations had raised. As it happened, this coalition—in which most of the key players had been the very architects of the 'democratic adaptation' of the neoliberal order after Pinochet—would become bogged down in its own lack of a concerted political will to push through the very reforms it had run on, as many of its core forces showed no discernible intention of undermining a system they themselves had invested the best part of the past three decades in polishing. By the end of her term in 2018, although the government had managed to push through some reforms, what had really characterised the governing coalition was its lack of a coherent unifying vision, and the way in which a range of high-profile scandals[42] laid bare how over the past twenty-odd years the traditional political elite—on both its left and right factions—had unsurprisingly developed deeply rooted vested interests in preserving the status quo. That year, Bachelet would give power back to her predecessor, Sebastian Piñera, once again.

Although in this context many right and left considered Bachelet's government to have ultimately been a failure, there was one area in which the majority of the political and economic elite recognised that Bachelet had achieved a breakthrough—energy. Indeed, by the end of Bachelet's term, the crisis described above seemed to have been, at least for the time being, solved. During her term, the sector had become the leading investment destination in the whole of the Chilean economy—albeit partly due to the slump in mining investments after the end of the commodity boom—, electricity prices had dropped substantially, and the rapid growth in alternative renewable sources (mainly solar and wind) had attenuated the oligopolistic character of energy generation described above (Núñez 2018; Pacheco 2018). In fact, the shifts

[42] Many corruption cases affected the Chilean political class as a whole during those years, but perhaps most illustrative of all was in the rather scandalous fact that Bachelet's own Socialist Party (the erstwhile party of Salvador Allende) was revealed to hold shares on some of the main companies privatised by Pinochet which the government was supposed to regulate, which included mining, water utilities, and energy. (CIPER 2017)

in Chile's electrical sector had drawn an important measure of international praise: in 2017 both the New York Times and the Washington Post ran cover stories on "Chile's energy transformation" (Londoño 2017) and the "Solar Saudi Arabia" (Miroff 2017), respectively, and the rapid proliferation of solar farms over the Atacama Desert served as one of the upbeat notes of Al Gore's otherwise gloomy 2017 documentary "Inconvenient Sequel"[43]. The main issue behind this international notoriety had been the rapid expansion of solar energy capacity, built upon the exceptional conditions of the Atacama Desert, which has the highest and most stable levels of solar irradiation in the world (Palma & Pacheco 2018; Rebolledo 2018; IEA 2018b). In less than three years—from January 2014 to November 2017—solar power generation capacity rose from 6.7 to 1,769 MW (Palma & Pacheco 2018:542); and presently accounts for 9.18% of national generation capacity (Comisión Nacional de Energía 2018), a proportion that, although still far behind coal, is set to keep growing. These developments were in part premised on the integration of the northern regions of the country to the centres of national demand in the central part, through the establishment during this period of the National Electrical System (SEN), which interconnected the northern SING and the central SIC. All of this was also explicitly situated in a longer-term vision which aimed to develop the country's power generation capacity with an eye on the energy integration with other countries in South America; integration that is currently envisioned in multilateral initiatives such as the Andean Electrical Interconnection System (SINEA) (Estévez 2018), which in turn develop in the context of the more encompassing infrastructural vision outlined by the Initiative for the Integration of Regional Infrastructure in South America (IIRSA/COSIPLAN)[44] (CEPAL 2014; Zibechi 2006). In this emerging context, the geopolitical meaning of the vast expanses of the Atacama Desert has been transformed[45]: as the then head of international affairs of the Energy Ministry summarised it, "just 5% of the Atacama Desert could supply 30% of South America's electricity demand" (Estévez 2018:236).

In no small measure, these shifts expressed the previously described political limits encountered by the terms that had hitherto mediated the expansion of the energy frontier in

[43] See: https://www.youtube.com/watch?v=BnXhTggl3RE

[44] The IIRSA can be seen the infrastructural expression of what Svampa (2012) calls the 'commodity consensus': it has managed to enroll under a common vision—that of deepening the efficiency and extent of the region's subordination to the demands placed upon it by the international division of labour—otherwise politically dissimilar, even hostile, governments across the region. Many of its multiple projects have faced intense internal opposition, sometimes with important political consequences, such as the struggles around the TIPNIS case in Bolivia (see Webber 2014).

[45] This is in addition to the fact that the region also holds the world's largest lithium deposits, which are a strategic component of batteries and new energy storage systems.

Chile[46] (cf. Baquedano 2018). These limits were perhaps most clearly manifested in the ultimate defeat of HidroAysén, in which the country's economic and political elite—the great majority of whom had strongly supported the project—had encountered a steadfast and broad opposition that made their infrastructural vision simply unfeasible (*Ibid*.). By the beginning of Bachelet's term, it had become clear for many among the political elite that the problems of the system would not be simply solved by building HidroAysén or any other megaproject—it was not a problem simply of adding megawatts to the system, but one about political and social conditions that had become unmanageable under the way the neoliberal institutional apparatus had been operating. For the new Energy Minister, Máximo Pacheco—a former business executive of centre-left political leanings—, at the heart of the energy issue was the need for a reconceptualisation of the state's role in the sector, repositioning it as the main agent in the urgent process of mediating the multiple conflicts that from his perspective crippled energy development in Chile, and in generating a national long term vision for the sector, which free-market fundamentalism had omitted out of principle. In his own words,

> "Energy is too important to be left exclusively to market forces". That was the premise I started working with, recognising the legitimacy of repositioning the realm of the public in our society, with a State bearing the main responsibility for the common good. Yes, the State can do it. This State looks to be closer to the citizenry and understands that its main responsibility is to build an energy policy with social legitimacy, dialogue and participation. A State that distances itself from the commercial interests of businesses, which have their focus on profit, without consideration for the value and social impact of their works[47]. (Pacheco 2018:554, my translation)

For Pacheco, the crux of the solution to the energy issue in Chile was to reposition the state in a political role of mediator—rather than enforcer—, so as to create the 'social legitimation' that energy investments lacked, and that 'the market' by itself had proven unable to deliver. The way the new administration proposed to achieve this was, on the one hand, by an institutional reform of the Energy Ministry—for example, opening a Division of Participation and Social Dialogue—and, more broadly, by developing "a long-term Energy Policy, that will be validated by the Chilean citizens through a participatory and regional process" (Ministerio de Energía

[46] Indeed, aside from its exceptional solar radiation levels, perhaps one of the great geographical advantages of the Atacama desert that gets hardly ever mentioned, is its extremely sparse population; a factor that, one can hypothesise, has given solar power a great competitive advantage vis-a-vis hydropower which in Chile has to navigate a much more difficult social and cultural terrain.

[47] Of course, here Pacheco is here presumably referring to the oligopolistic concerns of energy companies. What this language obscures is the structural relation between the systemic imperative of profitability and the social determinations of energy demand and scarcity.

2014:17). In 2014 the Ministry of Energy thus launched a process to build a long term energy strategy under the name "Energía 2050". The initiative included

> four development stages and three participation segments. These cover participation at a political-strategic level with an Advisory Committee; at a technical level with sector experts involved in energy and thematic panels; and at a public level encompassing the entire population with a public platform, discussion workshops and public consultations (Ministerio de Energía 2015:33)

The Ministry invited 27 people and organisations to be part of the Advisory Committee, which were deemed to be representative of the different key social actors and interests involved. These included representatives from different industry associations, other Ministries of the government, academics, and NGOs (Bustos et al. 2018). The discussions and decisions of this Committee were to incorporate the discussions emergent from the participatory workshops that would take place across the country, which would in turn cover around ten different themes, ranging from hydroelectricity, to indigenous issues, associativity schemes, and land use planning (*Ibid*.). This process led to the publication in 2016 of the 146-page-long 'Energía 2050' document, which defined four pillars of energy policy, and a range of strategic goals that, the initiative held, would adequately express a broad national consensus.

This initiative thus aimed at reconfiguring the political stalemate on which the expansion of the energy frontier had been entangled for the best part of the last decade. The context posed a difficult problem for many national NGOs, local communities, and movements that had been opposing projects. Some of the most high profile organisations that had been invited to be part of the Advisory Committee, such as the Council for the Defense of Patagonia, ultimately refused to participate, as they were very conscious of the risk of their presence merely legitimating a process in which the interests of energy companies—structurally consolidated in all other aspects of the legal and institutional order, such as environmental, energy, and water law—would ultimately prevail (see Liberona 2017; Larraín et al. 2016). Nevertheless, many of these organisations did participate in the regional workshops, as a way to influence the discussion. This also proved problematic, as being present and able to influence these discussions in any meaningful way stretched beyond the human and financial resources of many organisations and communities, due to the great number of themes, meetings, and their geographic dispersion. In this sense, some denounced the very design of the process of participation as exclusionary, as it did not adequately consider the deep asymmetries in resources, access to information, mobility,

and political power of the different sectors the process sought to bring together; and that these asymmetries risked being represented as spurious consensuses (Larraín et. al. 2016).

In the case of the Araucanía region—in which the area of study of this dissertation is located—the process was also strongly questioned by regional organisations, as the Ministry's narrative of participation was undermined by Minister Pacheco's own repeated statements about the huge project portfolio he had in store for the region—about which there had been no consultation with local communities, or Municipal governments (Red en Defensa de los Territorios 2016)—and the way in which the central government had pushed through the approval of a hydropower project (Doña Alicia) against its initial rejection by regional authorities (Comisión de Evaluación... 2016). The alienating effect of these issues was compounded by the reported failure of the Ministry to adequately inform many communities actively engaged in conflicts with hydropower projects of the meetings (Mapuexpress 2015b). Indeed, and as I was able to witness during my fieldwork, from the point of view of many organisations and localities engaged in ongoing conflicts, the discourse surrounding this process—around conciliation, respect, and a new relation to the state—contrasted strikingly with the simultaneous intensified encroachment of energy companies upon their territories[48] (Mapuexpress 2015a; see Chapter 7)—a direct outcome of the Ministry's frantic efforts to boost investment (see Núñez 2018; see below). This was something at the time taking place in and through the old relations of racist subaltenisation and accumulation by dispossession institutionally enabled by, among other things, the Water Code and the System of Environmental Impact Assessment. These mechanisms, which express in institutional form the structural character of the power wielded by energy companies described earlier, fell largely out of the purview of the discussions around the energy agenda, even though they are intimately linked to the way the sector operates in practice, and lie at the root of many of the movement and organisations' demands, as they have been shown, according to national human rights organisations, to systematically violate the rights of indigenous people to free prior and informed consent, and the Chilean state's own commitments under the 169 ILO Convention (Castro Garrido et. al. 2016; cf. Kelly-Richards et al. 2017). As much as Pacheco considered those issues to "be history", and that he was looking to "have another approach" (Álvarez 2015), the fact remained that for communities engaged in struggles at the energy frontier his Ministry was expanding, these were indeed very much alive in the everyday concrete experience of their ecologies and of their relationship to the state, and

[48] In 2015 there were 66 hydropower projects in different stages of development in the region (Castro Garrido et. al. 2016).

the apparent lack of proper acknowledgement seemed for many of those I talked to manipulative and disingenuous.

In institutional terms, this tension between the process of participation and the simultaneous intensification of the energy frontier was expressed in the fact that at the same time as the Ministry opened its Division of Participation and Social Dialogue, it also opened its Project Management Unit, the main objective of which was "the promotion of investment in energy infrastructure" (Núñez 2018:482). Both instances shared the general aim of facilitating the materialisation of investments, and ultimately lowering prices. In addition to the new Unit facilitating the administrative processing of projects, the Ministry introduced reforms to the bidding processes and made an intense campaign of international promotion to attract new companies (Núñez 2018).

At a deeper level, all of this reflected the contradictions of the 'green growth' discourse driving the new Ministry's approach, perhaps more clearly manifest in the tension between its ostensible openness to "the participation of every individual, community and entity … to establish a long-term policy that represents all Chileans" (Ministerio de Energía 2015:32), and the non-negotiable—indeed, naturalised—character of the policy's ultimate aim: that of the energy sustenance of the Chilean model of extraction-driven growth. In the context of the social hierarchies that constitute the latter, the unproblematised notion of "all Chileans" that underpinned the process only served to further mystify the political problem of the energy frontiers it sought to address; which in effect made of the notion of "participation" it mobilised little more than a more flexible and refined form of (post-)political regulation (cf. Swyngedouw 2011) of the dialectics of domination and resistance in the energy frontier. In practice, the field of discussion the Ministry aimed to establish was limited to *how* and in what terms the energy frontier was to expand, not to *whether* this expansion fitted the priorities of local communities, their needs, their conceptions of the future, or the particular relations they held with their lands and waterscapes. Indeed, these latter aspects cut against the grain of the fragmentation that characterises the institutional apparatus in which the participation process was embedded: it necessarily involved the issue of water, the relative power of local communities over a land use planning process hegemonised by oligopolistic interests, the relation of the state to indigenous peoples, among other issues; a complexity that the Ministry—as the institutional expression of this fragmentation—was structurally unable to address. This was illustrated in the fact that when the truly core issues at play in the 'energy problem' from the point of view of indigenous peoples—such as water rights, the binding character of consultation processes, or their

constitutional recognition as distinct peoples—were raised on the workshops for the Indigenous chapter of the energy policy, these were all confined to an Annex entitled "Other demands of participants in the process of participation that exceed the competences of the Energy Ministry" (Ministerio de Energía 2017:83).

This particular delimitation of the political field implied in the production of energy frontiers effected by the participation process was expressed by the way Pacheco described his approach: "energy development could only be achieved if it was made 'with' the citizenry, not 'for', 'despite of', or, even less, 'against' it." (Pacheco 2018:558) Here, of course, all the political questions relevant to the energy frontier—what are the social priorities and values that drive this frontier, which social relations and hierarchies does this frontier serve to reproduce and nurture, what are the alternatives, if any, to all of the above, and what is the relation between this frontier and the notion of sustainability it constantly invokes, to mention a few—lie black-boxed in the keyword 'energy development'. As Lohmann and Hildyard note, borrowing from Raymond Williams, 'energy' constitutes a particularly powerful 'keyword' in capitalist ecologies, which functions as "a slippery abstraction that trains people into holding certain political biases without their being aware of it" (Lohmann & Hildyard 2014:19). Here, in the unproblematised notion of 'energy development', is included the unproblematised notion of the the economic order that defines the forms and magnitudes of the former, and the cultural-political forms of subalternisation it needs to deploy to materialise—in this case the negation of the right to self-determination of the peoples inhabiting frontier spaces (see Castro Garrido et. al. 2016; Kelly et. al. 2017); a right that, were it to be recognised, would necessary bring all these questions onto the table. I will return to these themes empirically in Chapter 7.

The reconfiguration of the hydropower frontier: small-scale hydropower as spatial fix

In the new context delineated by *Energía 2050*, hydropower retained its strategic role, in particular as the basis for the regulation of the variable energy provided by sources such as solar and wind farms. The *Energía 2050* document explains that:

> Hydroelectricity emerges as an important source in all the scenarios analyzed. It is important to increase the level of hydroelectricity to enable a greater penetration from variable sources, adding flexibility to the grid and minimizing emissions and costs. Although there will be increasing technological alternatives for energy storage, the advantage of hydroelectricity in terms of costs and availability as a domestic resource is significant. In a

> country with a good potential for storing energy in reservoirs, the possibilities of their use should be explored to the maximum extent possible… (Ministerio de Energía 2015:71)

As a range of organisations observed (Codeff, et. al. 2016:7), this regulatory function mostly refers to the reservoir system, which implied that the prospect of new large-scale dams still loomed over the new Energy policy, even as the explicit mention of this was avoided in the document. This silence was in a sense not surprising, as hydropower became one, if not the most contentious issue during the participatory process; so much so that the discussion of the topic was treated separately by the Ministry, and its results published a year after *Energía 2050*. The people who participated in the organisation of the whole process called it 'the H word', as in the first phases of the Advisory Committee discussions explicit mention of it was avoided for fear of narrowing the grounds for consensus too soon (Bustos et. al. 2018:361). Nicola Borregaard, who at the time was the Chief of the Sustainable Development Division of the Ministry of Energy, writes that the issue

> [w]as left as a pending dialogue in the Energía 2050 policy document. It was considered as highly complex, and it required dedicated work with related actors from different perspectives. The magnitude of the conflict around hydropower is made evident by the high number of projects in which the decision by the final administrative instance, the Committee of Ministers, has been challenged, reaching the Environmental Courts. These projects add up to 3,757 MW, which accounts for over 15% of the current electrical matrix. (Borregaard 2018:165)

The "Participatory Table for Sustainable Hydropower" had a hard time laying the bases for the dialogue it ostensibly wanted to establish. Three of the most important environmental NGOs in the country refused to participate, arguing that the Ministry had amply demonstrated, both in practice and in the *Energía 2050* document, a commitment to hydropower development irrespective of the opinions that civil society organisations had given on other instances of participation, and that the structural issues behind the degradation of watersheds and conflicts surrounding hydropower—such as the Water Code and the system of environmental assessment—needed to be addressed before any talk about 'sustainable hydropower' could take place (Larrain et. al. 2016). Otherwise, these organisations argued, framing the discussion in these terms not only misled the public, but actually accentuated the damage being done at the hydropower frontier. From the other side, some of the Table's outcomes, in particular those pertaining to the establishment of a guide to define ecological flows in the processes of environmental assessment, was opposed by power companies, who questioned the binding nature of the guide and highlighted the greater costs these measures would imply for them

(Borregaard 2018:168). Given the irreconcilable nature of the interests embedded in the social determinations of hydropower infrastructure in Chile—described throughout this chapter—, it was of little surprise that the majority of the recommendations that derived from the Table referred to the need for more and better information concerning the conditions and impacts of hydroelectricity generation of watersheds and communities, and were remarkably thin on the substantive political issues underpinning the systematic conflict that characterises the industry. Indeed, as the document explains, regarding indigenous rights,

> Some of the objections to hydroelectricity have related to national debates between indigenous peoples and the state regarding constitutional recognition, which implies the recognition by the state of the existence of "peoples", with all their own characteristics coexisting inside the national territory; the fulfilment of the state's duty to protect and promote the rights of indigenous peoples, such as the special protection of their territories and environment, the right to consultation and consent; and to define their own form of development. *The table took notice of these issues, but not a common stance nor did it debate them in depth*. (Ministry of Energy 2017:5, my translation and emphasis)

The lack of discussion of these issues is indeed remarkable, especially considering the history of the conflicts in the sector (see Susskind et al. 2014), and the fact that according to the Ministry's own strategic plans, the areas of highest hydropower potential coincide with the ancestral Mapuche homeland (see Ministerio de Energía 2018, see Introduction).

It is easy to understand the mistrust shown by the organisations that rejected the invitation to participate in this Table in the context of the unprecedented push that the Ministry and its Project Management Unit were giving hydropower investments at the time, in particular to 'mini-hydro' projects[49] (Nuñez 2018). According to the head of the Unit at the time, Pacheco had asked

> … if we were capable of obtaining, towards March 2018, one hundred new 'mini-hydros' in development. The bet was high: in the history of our country, until March 2014, we had around 60. … Despite the adverse outlook, Pacheco insisted on promoting this industry, and proposed three axes to do so: 1) to advise and support the monitoring of investment plans, development and execution of companies in minihidro projects; 2) support in identifying administrative bottlenecks in the processing of initiatives, and 3) support the development

[49] As had been observed (Kelly-Richards et al. 2017), the notion of 'small' or 'mini' hydropower varies significantly across the globe. In the Chilean context, these are all projects under 20 MW.

> of intersectoral coordination actions for the promotion of these type of projects (Nuñez 2018:490-491, my translation)

This aggressive policy led to a veritable boom in 'mini-hydro' projects. If in March 2014 there were 64 projects in operation, accounting for 342 MW, by December 2017 these had more than doubled, with 54 new projects already operational, and 12 more under construction, totaling 250 MW of new generating capacity. On top of this, 54 additional projects had obtained approval over the same period. This meant that, "17 mini-hidro plants were developed each year on average, almost triple what had been registered in previous years" (Nuñez 2018:493, my translation). This was added to the support that the Ministry had given larger run-of-the-river projects, such as Alto Maipo in the central part of the country, which in 2016 totalled 975 MW under construction (Revista Electricidad 2016).

These sort of projects presented a key advantage in relation to the traditional mega-dams like those of HidroAysén. María Isabel González, a well-known energy consultant, told an important industry magazine that "historically reservoir projects have been very competitive with other technologies, including run-of-the-river hydropower, but the opposition faced by stporage dams has induced the development of run-of-the-river plants" (Revista Electricidad 2016, my translation). Something similar was pointed out by the director of the Electrical Engineering Department of the University of Chile in the same report:

> From an economic point of view a 550 MW dam, versus five 100 MW run-of-the-river plants, is a cheaper project, but if you add the restrictions related to the environment, territory, and communities, maybe is more feasible to do run-of-the-river plants of a smaller size.

The issue of the water regulatory capacities afforded by big reservoirs can be, according to other experts interviewed in the report, managed by an integrated coordination of various smaller projects. Hugh Rudnick says that these projects, "can manage water storage over one day, which is enough to back up the intermittency of solar or wind energy, so medium-size reservoirs can be enough". In this sense, Luis Vargas holds that "what could be done is an integrated management of small reservoirs, so that they behave like a big project".

In this sense, perhaps the key advantage of the geographical dispersion enabled by the smaller hydropower projects that the Ministry of Energy promoted in this period was above all a *political* one. In a way the technological form of the mega-dam itself generated relatively favourable conditions for the political composition of its opposing social force: the scale of the intervention de facto opens up a concomitantly broad field of (potential) political unity among

what otherwise would be relatively scattered, at times even antagonistic, social groups. This was clearly illustrated by the case of HidroAysén, in which the scale of the project necessarily confronted it with imaginaries of national, and even international, 'heritage' that managed to articulate and focus a coalition of opposing forces that the project's supporters could not overcome.

In contrast, small(er)-scale hydro as being developed in Chile has implied a very peculiar sort of scalar politics. Insofar as it is developed as an *alternative* to big dams—ie. it still seeks to respond to the energy needs delineated by the circuits of extractive accumulation that dominate the Chilean economy—, the technology only finds its social meaning in the *regional concatenation* of multiple projects connected to the national grid. This broader scale, however, is systematically obscured in the concrete deployment of the infrastructure, which tends to posit the 'local' as the default scale in which these projects are experienced and articulated, both in political and institutional terms. This means that, at the institutional level, the social and environmental assessment of these projects is never done on the aggregate scale but individually; which, as many studies have shown (Kelly-Richards et al. 2017; Bakken et al. 2012; Kibler & Tullos 2013), can obscure impacts that only become visible at, for instance, the watershed level—and which may be even greater than those implied by an equivalent, in MW terms, large-scale dam (*ibid*.). On the political level, this has meant that, far from doing away with conflict, this takes the form of a proliferation of many disarticulated struggles, whose main challenge then becomes composing the antagonism on a scale at which it can successfully constitute a challenge to this new geographical and scalar articulation of the energy frontier. In other words, the new policy pursued by the Ministry of Energy during this period—the self-proclaimed 'Energy Revolution'—consisted, in the case of hydropower, of pursuing *a socio-scalar fix*: it didn't resolve the antagonism that plagued the Chilean hydropower frontier, but merely fragmented it. This has, until now, proved to have a measure of efficacy in temporarily solving the political stalemate in which the hydropower frontier had become bogged down for the past decade. Nevertheless, insofar as the structural issues remain unaddressed, hydropower still lacks the "social validation" the ministry sought to create. Indeed, as the frontier expands into new territories, conflicts have kept on intensifying—reaching in some cases new levels of violence —, new networks have appeared, and the territorialities of more and more communities have suddenly become grounds for new forms of politisation and subjectivation from which critical perspectives on the energy question continue to emerge.

In this sense, the Llancalil hydropower project must be understood in this general context and dynamics shaping the contemporary energy frontier. As described in the Introduction, this is a run-of-the-river project—ie. a project that has no big reservoir, but that diverts the course of the Liucura and Llancalil rivers over, in this case, 3.3 and 1.2 kilometres—that will generate 6,9 MW of energy, and will imply an investment of aproximantely 23 million USD. In the following chapters I will explore the processes described earlier as they develop in the locality of Huife, by examining the way in which this frontier-making movement, expressed in the circumstances surrounding the potential contruction of the hydropower plant, articulate with the multiple layers of meaning that constitute the Andean foothills as an inhabited space.

4. Refuge and settlement: The historical constitution of the *cordillera* as inhabited space

> [The tension between 'historical fact' and tradition] exposes the cultural work in the organization of a historical praxis, how what happened has been effectively recuperated in the terms of a particular sociocultural order. ... [What it] reveals is the way—which is never the only possible way—the events have been culturally construed by some social process of valuation. For historians and anthropologists both, the fundamental question is not what actually happened, but *what it is that happened*.
>
> Marshall Sahlins, *The atemporal dimensions of history: In the old Kongo kingdom, for example.*

Every year, as the southern summer gives way to autumn, the imposing *araucaria*[50] forests that characteristically crown the Andes range at these latitudes start to shed their seeds. Locally known as *piñones*, since time immemorial these nutrient-rich pine-nuts have been an important part of the winter diet for those living in these parts of the Andes, and beyond. At some point during March, the people living in the communities located in the river valleys that narrow into the mountains prepare to undertake the first ascent of the season to these forests to harvest *piñones*, or to *piñonear*. Normally done on horseback, during the ascent of the steep slopes one is likely to witness a common succession of landscapes; one that characterises many of the region's mountain valleys, like the one in which Huife is located. First, one would go through a mosaic of meadows dotted with young *hualle*[51] trees, different kinds of shrubs—such as blackberry and *rosa mosqueta*, both normally harvested during the previous summer months—and *quilas*, a local species of bamboo, ruminated by the scattered cows. As one ascends, the landscape gradually becomes more forested, and the previously isolated patches of secondary forests become dominant. These young forests are composed mostly by young *hualles*, *coigües,* and other native[52] pioneering species. Despite the increasingly steep slopes, cattle still graze in

[50] *Araucaria araucana*, known in English as monkey-puzzle tree, locally known as *araucaria, pehuén,* or *pino.*

[51] Local name given to young specimens of *Nothofagus obliqua*, or Patagonian oak, one of the most common local pioneering species. Once these trees achieve maturity, its wood hardens and turns red, becoming a *pellín*, much rarer nowadays. This latter's hardwood is greatly valued for its durability.

[52] The term 'native' applied to flora, especially trees, is quite a conspicuous term in what one could call Chile's 'cultural botany'. This has to do with both the biogeographical characteristics of the country and

the understory and meadows; as Osvaldo, an old inhabitant of lower Huife, remarks, “here we raise four-wheel-drive cows”.

Throughout this vertical progression of the landscape one is likely to encounter several elements that suggest fragmented glimpses of its hidden history. For instance, it is common to see huge tree stumps, half-covered by grass. Or occasional gigantic, long dried-out *coigüe* trunks, that stand as pale skeletal witnesses of some long past calamity. But, ever since I was a child seasonally visiting the location of Pichares, what for me stands as one the most conspicuous features of these landscapes is the abrupt break that can be seen in the highest parts of most mountains in the region: an imposing grey wall of thick and tall *coigüe* and monkey-puzzle trunks raising above their youngsters, which have been slowly reclaiming the lower slopes for many years. This break between the unfathomably ancient forest covering the mountain tops and the somewhat more mundane expanding patches of young trees delineates not only an ecosystemic boundary, but also points to the overlapping temporalities that have carved this landscape. And as one crosses the imposing threshold marked by the ligneous pillars of *coigüe* trees, one has the distinct impression of entering a space ruled by a wholly different sort of time. In the words of Pablo Neruda, ‘this is a vertical world: a nation of birds, a multitude of leaves’; a space whose fundamental features inhabit a temporality that renders human time microscopic, but that at the same time is paradoxically, at times tragically, radically subjected to the ant-like strife and violence of human histories. The divergent and clashing paths of these histories of inhabitation percolate into the nooks and crannies of the mountain’s ecological constitution, into its venerable temporality, and vice-versa, constituting a humanized, deeply historical, ecology.

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its environmental history. Chile’s temperate rainforests—which account for nearly one-quarter of the world’s total (Wilcox 1996)—stretch roughly between 37°S and 45° S, in what presently are the Araucanía, Los Ríos, Los Lagos, and Aysén administrative regions (Neira et al. 2002). Topographically and climatically isolated, these rainforests are widely considered to be a bio-geographical ‘island’: to the north lie central Chile’s mediterranean-climate valleys—beyond which the Atacama desert stretches for thousands of kilometres—, to the east the Andes mountain range and the Argentinian steppe or ‘pampa’, and to the west and south the Pacific and Antarctic oceans, respectively (Armesto et al. 1995; Wilcox 1996). This has effectively isolated southern forests from other tropical and subtropical forest formations in the continent for over a million years (*ibid*.). Non-anthropogenic genetic exchange has thus been very rare, leading to a very high level of floral and faunal endemism; many of which consist on monospecific genera and families (Newton 2007; Armesto et.al. 1995). These characteristics distinguish these from the more interconnected northern hemisphere’s temperate rainforests.

The relatively recent introduction and widespread expansion of exotic tree species such as different varieties of eucalyptus and pine trees, has had an enormous impact in the country’s socio-ecology, and arguably constitute one of the main features of the political ecology of neoliberalization in the country (see Klubock 2014). This makes the exotic/native binary particularly significant within Chilean environmental politics and forestry.

Figure 12. Picture taken by the author in Llancalil, showing the ecological boundary between the old growth and the secondary forests in the background, followed by the grazing areas below.

This chapter will present an ethnographic exploration of these historical dimensions of the landscape, the trajectories through which human communities have made the upper Liucura River's valleys an inhabited space. These practices of inhabitation and dwelling (Ingold 1993) have not only produced a particular landscape, but they have historically constituted a geography of meaning, identity, and value, a historical and geographical frame in which current expansion of the energy frontier acquires its local significance and political direction. In this sense, the idea of this chapter—in its relation to the following ones—is not only to reconstruct history understood through the rather simplistic notion 'of what actually happened', but to also try to approach this historical facticity through the way in which it has been incorporated into a particular socio-cultural order; as it persists in the living memory I encountered in these valleys. This is, to approach history as it can only exist and be actually made: as the social historical consciousness—the cultural weaving of intergenerational relations—in the context of which present human practice must negotiate its meaning. To paraphrase anthropologist Marshall Sahlins (2017) in the epigraph above, the historical role of culture is none other than defining what it is that happens when something happens.

This web of intergenerational relations is one of the determinant elements being mobilized in the conjuncture brought about by the possible development of the 'Llancalil' hydropower project. These historical relations provide one of the central backgrounds in relation to which these transformations are evaluated, and possible futures imagined. Thus the

modular, gradual, and contested process of neoliberal reconfiguration of the Liucura valley's socio-natural relations can in this sense only be understood as working their way through these relations.

The Wallmapu: from the *Frontera*, to the occupation

The landscape described above bears the weight of a deeply conflictual history of variously internally related moments of displacement, settlement, and state-making. This history is characterised by significant particularities, which ultimately trace their roots to the very special relationship the region had with the Spanish colonial regime (from the mid-16th to early 19th century). It is therefore necessary to describe the broad contours of this relationship up to its upending in the late nineteenth century, if we are to adequately situate and understand the origins of the territorialities that concern this study.

The first defining feature of the region is its relatively late incorporation into the Chilean state, and through it, into the capitalist world-system. The people that the Spaniards encountered in the southern limits of the Tawantinsuyu, or Inca Empire, in the mid-16th century—what are now the south-central regions of Chile and Argentina—were one of the few American populations that successfully resisted Spanish conquest throughout the colonial period, effectively achieving a military equilibrium with the colonial regime that would last for almost three centuries[53], indeed several decades into the postcolonial history of both the Chilean and Argentinian states (Bengoa 2000). The relative autonomy that the region maintained during these centuries from the incipient capitalist world-system had important consequences from a socio-ecological point of view. In contrast to Chile's central valleys, laboured under the *encomienda* system[54] and ultimately subjected to the demands of the

[53] In 1549 the first expedition led by Pedro de Valdivia departed from the newly founded colonial city of Santiago to the south, with the aim of submitting southern lands to colonial rule. This opened a period of constant war and uprisings, in which the definitive turning point took place in 1598: in the battle of Curalaba the Spanish army is definitely defeated, the colonial governor executed, and all cities south of the Bio-Bio River burned or abandoned (Bengoa 2000). This outcome (later legally consolidated through the Quillin Treaty, celebrated in 1641) was spatially expressed in what would be one of the defining geographical features of the colonial period in Chile: the establishment of the Bio-Bio River as a frontier between colonial society and the autonomous Mapuche lands. Far from impermeable, this frontier was a porous space in which different forms of *mestizaje* and cultural exchange started taking place in terms wholly different from those ruling the fiercely hierarchical colonial caste system across the Americas (Boccara 1999).

[54] The *encomienda* was the standard form in which labour came to be organized after the Spanish conquest. The Crown gave some *conquistadores* rights over labour and tribute from a specified number

imperial centre, the region remained beyond the control of the colonial regime, and its links to the colonial economy[55] remained generally subordinated to the needs and scales defined by the logics of reproduction of Mapuche society itself, not by those imposed by the reproduction of the colonial system. This meant that during this period, the lands south of the Bio-Bío River, known to the Mapuche as the *Wallmapu*, remained under multi-scalar indigenous territorial logics, at the core of which were the reproduction of extended kinship and territorial ties structured around patrilineal descent (like the *lof*), long-distance and trans-Andean relations of exchange and war, and the diversified, mobile agropastoralist socio-ecology that had developed in the centuries following the arrival of the Spaniards[56].

It is important to underscore that the socio-natural conditions of this period were themselves a product of the colonial encounter and war, and probably as different from the pre-Hispanic conditions as they would be from those emergent after the final incorporation of the region into the Chilean and Argentinian states in the latter half of the nineteenth century. Indigenous organization, identity, forms of life, and the biodiversity associated with them, were all transformed to different degrees following the arrival of the Spaniards, despite—or rather, as a condition for—the successful resistance to colonization and the preservation of indigenous territorial and political autonomy. The introduction and rapid adoption of European cattle and crops, coupled with the demographic collapse brought about by diseases and warfare during the 16th and 17th centuries, thoroughly transformed indigenous socio-ecologies, which from being articulated around a diverse combination of horticulture, camelid rearing, and foraging, by the 19th century came to be shaped by a mobile agro-pastoralist way of life based on the seasonal usage of different microenvironments and heavily reliant on species introduced by the Europeans (notably wheat and European livestock) (Bengoa 2000, Boccara 1999, Klubock 2014). Furthermore, the congealment of the more or less differentiated indigenous peoples that populated the region in pre-Hispanic times into the, also more or less, unitary identity of the contemporary Mapuche, can be traced to the processes of ethnogenesis set off by the colonial war (see Boccara 1999). Indeed, the region saw an intense process of cultural transformation, as people and a wide range of cultural elements of European origins were incorporated in the

of people from conquered communities; in turn, *encomenderos* supposedly had the responsibility of Christianizing the indigenous population and instructing them in the Spanish language.

[55] Mapuche political autonomy hardly implied isolationism: Mapuche commerce with the frontier regions of colonial society acquired very important proportions during the 18th and part of the 19th centuries, trading in everything from *piñones*, to cattle, to woollen ponchos (Boccara 1999, Bengoa 2000).

[56] Millalen (2006) provides a detailed description of Mapuche socio-territorial organization during this period.

terms of the rapidly transforming Mapuche culture—in short, a process of cultural hybridization, *mestizaje*, in terms wholly different from those imposed by the fiercely racialized and hierarchical colonial caste system that mediated this process throughout colonial America (see Boccara 1999; cf. Silva 1992).

Primitive accumulation and the centrifugal socio-ecology of the Occupation

It was in the period stretching roughly from 1861 to 1883 that the region was finally occupied by the Chilean and Argentinian states through a series of military campaigns on both sides of the Andes[57]. This invasion marked a fundamental historical break for the region and those living in it, and unleashed a chaotic process of primitive accumulation in which the origins of the territorialities dealt with in this study are to be found.

It is hard to overstate the socio-ecological significance of the incorporation of the region into the Chilean and Argentinian national states. According to archaeobotanical surveys, the final decades of the nineteenth century brought about transformations in the region's landscape on a scale only comparable to those brought about by the end of the last Ice Age, i.e. the beginning of the Holocene epoch[58] (Armesto et al. 2010). These transformations had multiple facets. In the first place, there was a complete territorial overhaul after the destruction of Mapuche autonomous territorialities. In the region, from approximately 10 million hectares controlled by the Mapuche before the invasion, their land was reduced to 500,000 hectares; approximately 5% of the original extension (Bengoa 2000; Correa et al. 2005). This reduction implied the radical transformation/destruction of Mapuche socio-ecological, organizational, and territorial conditions: from increasingly hierarchical, relatively wealthy, and highly mobile agropastoralists, they were forcibly turned into largely homogeneously impoverished peasants forced into (many times sub-)subsistence agriculture, and confined to marginal plots of land—a

[57] Officially, the Chilean government at the time called this invasion the 'Pacification of the Araucanía', while the Argentinian side called it 'The Conquest of the Desert'. Needless to say, these terms—which for much of the twentieth century remained the dominant nomenclature in official historiography—have been widely criticised by the Mapuche people as a thinly veiled obfuscation of what effectively was an openly genocidal war of expansion of the newly constituted national states.

[58] After the arrival of the Spaniards (and with them, the diseases) in the 16th century and the intense period of war that followed, there was, as in most other parts of the Americas, a demographic collapse of cataclysmic proportions. This led to important changes in the region's landscape as forest cover expanded on the abandoned, previously cultivated, valleys. This process however seems to have been far less rapid and widespread than that following the occupation in the last decades of the 19th century.

process referred to by several historians as '*campesinización forzada*' or 'forced peasantisation' (*Ibid*.).

Figure 13. Chilean troops during the Occupation of the Araucania. 1883. Source: Biblioteca Nacional de Chile, taken from www.memoriachilena.cl

Klubock (2014) notes that despite this general territorial disarticulation, many of the trans-Andean trade and migration routes, as well as mobile practices such as the seasonal use of the highlands for cattle grazing (*veranadas*), not only survived, but for some acquired even greater subsistence significance given the acute land scarcity faced by the Mapuche after the reduction process. These were, nonetheless, practiced against the grain of the state's territorial projects, such as for example, the Chilean-Argentinian border, or later, the establishment of the region's National Parks and Nature Reserves. What is important to highlight in relation to areas in the *cordillera*, such as the upper Liucura valley in which Huife is located, is that during this period, and throughout much the twentieth century, the *cordillera* would remain a space where contesting geographical projects, meanings and practices clashed: the *cordillera* was a space of refuge, a trans-Andean passage, a border, and a no-man's-land ripe for settlement—all at the same time.

Despite the state's almost complete lack of effective administrative presence in the region beyond military forts, the newly seized lands were declared *tierras fiscales*, or 'public' lands. This, coupled with the destruction of Mapuche territorial control, threw the region's

territorial dynamics into a tailspin: large extensions of poorly charted lands were auctioned off to wealthy Chileans in faraway cities like Santiago, opened to colonization by newly arrived European settlers, and squatted by landless Chilean *campesinos* (Bengoa 2000; Klubock 2006; 2014; Correa et.al. 2005). Deforestation became quickly implicated in a two-fold process of military control and expansion of markets: after the violent elimination of Mapuche territorial control, forests where burned on a vast scale to establish new land claims, access fertile soils, raise property values, and submit it to the vertiginous dynamics of real estate speculation (Bengoa 2000; Clapp 1993; Klubock 2014). All of this created a deeply conflictual agrarian structure where fraud, overlapping claims, irregular occupation of land, and widespread agrarian conflict became the norm. The fertility produced by the burning of huge volumes of biomass positioned the region's valleys as 'Chile's granaries' for several decades (Clapp 1993; Klubock 2014). The boom in the region's agricultural production further intensified pressure on both the remaining forests and small landowners. However, as initial fertility withered away in the first decades of the twentieth century, the toll of deforestation became evident through heavily eroded soils, frequent droughts, and floods (Klubock 2014). This eventually pressured many small landowners to sell degraded lands to increasingly larger estates, swelling the already ample underclass of underemployed landless or land-starved peasants, many of which fled to marginal lands (*Ibid*.).

Figure 14. Image of cleared forests in the region, in the early twentieth century. Source: Biblioteca Nacional de Chile, taken from www.memoriachilena.cl

Figure 15. Image of a recently cleared forest in the region, in the early XX century, illustrating the ecological conditions for the constitution of agrarian property in the region. Source: Biblioteca Nacional de Chile, taken from www.memoriachilena.cl

The history of the constitution of the communities in the area of study has its origins in these tumultuous decades that followed the military occupation; a period that, as noted, was characterised by epoch-making geographical reconfigurations. It is important to note here that the origins of the territorialities of the *cordillera* can in this sense be seen as a consequence of internally related processes of state-making and state-fleeing, reminiscent to those described by Scott (2009) in the context of south-east Asia. The socio-ecological constitution of both state power and market rule over land implied, in the first place, a huge demographic movement of the Mapuche population to regions of refuge, such as the *cordillera*, and on the other, the establishment of fiercely exploitative relations of production in the main valleys, from which the rural landless tended also to flee given half the chance. Frontier forests presented such an opportunity, albeit one that implied several risks and hardships, as I will show below. But what is important to note here is how the *cordillera* became a region of refuge from the newly constituted forms of power and their socio-ecological articulation. Rendering this process of spontaneous settlement of the frontier forests *legible* (Scott 1998) would indeed, as Klubock (2014) shows, be one of the most important tasks of the state in these regions during the first half of the twentieth century.

The origins of Huife: itinerancy, refuge, and the production of inhabitability.

Two main interrelated processes lay behind the settlement of the upper valleys of the Liucura River. In the first place, there was the large-scale displacement and movement of the Mapuche population effected by the waves of military advancements; the last of which reached the Villarrica Lake, and refounded the city[59] of the same name in 1883, which had been destroyed by the Mapuche almost three centuries earlier. Throughout the decades of Chilean military advancement, many of the displaced Mapuche families sought refuge in the *cordillera*, and further into the *Puelmapu* (present-day Argentina). Some years after the end of the invasion, the *cordillera* also became the object of a chaotic process of spontaneous squatting by *campesinos* looking for the newly declared '*tierras fiscales*' or 'public lands' to claim, in order to establish themselves as landowners, and escape the often brutal conditions of the various forms of rural proletarianizaton and *inquilinaje*, or tenancy, that characterised the Chilean traditional rural society.

Sometime around the turn of century, the Mapuche families Millaqueo[60] and Nahuelan, arrived at what is now known as '*Huife Bajo*' or lower Huife and settled on the northern bank of the river. Years before, these families had fled the invading Chilean army and abandoned their lands in the region's central valleys. These lands, according to the community's oldest members, amounted to hundreds of hectares, located in the area around what now are the towns of Labranza and Nueva Imperial, near the region's capital Temuco, in the central valleys. In the words of some of the oldest members of the lower Huife communities:

> My father's father had a whole lot of land around Labranza, my father's mother also had another lot, hundreds of hectares of land she had. And that they abandoned because the Spaniards [here referring to the invading Chilean army] where coming for them. And they were very afraid, so many bad people, and the Spaniards were on top of them, threatening people with death. And then, that is what the old ones did, my father's father, we ran, we went to the *cordillera*, we fled, we hid ourselves there. *Feliciano Millaqueo, 84 years old*.

[59] Today located approximately 35 miles to the west of Huife.

[60] Judging from my conversations with the family members, the precise origins of the 'Millaqueo' family name is somewhat unclear. The family that settled in what now is lower Huife was composed of Antonia Quintrequeo, Juan Colimil, and their four children, two boys and two girls. According to some interviewees, the name 'Millaqueo' was acquired afterwards, during the process of being registered with the Civil Registry; either due to the alcoholism and negligence of the official then in charge, according to one testimony, or to the fact that the reference to 'gold' that the Millaqueo name carries in mapuzungun (*milla* means gold) appealed to Juan Colimil, according to another.

> We fled because the Spaniards wanted to own our lands. And they were going to kill everyone, they were going to send Spaniards, *gringos*, who knows what they were, the *wingkas*[61]. (...) Everyone came from around Imperial, near Temuco. They were going to kill them, so they fled. (...) Then, after, they said, why don't we ask for some land in that mountain. And that's how they did it, everyone who was displaced agreed. *Millarayén Nahuelan, 93 years old.*

> I remember that *don* Juan [Colimil] used to say that they came from around Labranza first to Loncoche [in the region's south], and there they arrived among other Mapuches running from the *malones* [raids], as they used to say before (…). Because at that time the government had already agreed to give land to the foreigners and the *wingkas*. *Osvaldo Ibarra, 83 years old.*

The elders in the community tell the story of several years of semi-itineracy that followed the initial displacement, during which the families took refuge with other Mapuche in different parts of the region; first southwards, in Loncoche, and finally on the mountains to the east, arriving at Menetúe, a location just south of the Huife valley. During these years, their situation got progressively worse. In the words of Osvaldo Ibarra:

> And there to Loncoche arrived my father-in-law's father [Juan Colimil], with their animals and all their things, and the land they lost. And they arrived to Loncoche to live with other Mapuche there. And from Loncoche, years after, when they had even fewer resources left, they arrived at Menetúe, and there they stayed for some years (...). And from Menetúe came *don* Juan Colimil, he came as friends with Nahuelan. (...) And there they took possession of all of this side [of the river], from Lefincul to here [lower Huife].

In those times, there only existed a rudimentary track along the southern bank of the Liucura River, which went through the *cordillera* towards the Reigolil valley[62], and beyond, to the *Puelmapu*, what is now Argentina. For a period of time, both the Millaqueo and Nahuelan made several exploratory incursions into the valley, and progressively laid the ground for a more permanent settlement. According to the oldest members of the communities, at the time there was no permanent occupation of these lands[63]. At the time the new settlers only found traces of sporadic previous occupations, like, for example, some forest clearances along the southern

[61] Mapuche term that can mean foreigner, white person, or Chilean, depending on the context.
[62] This is an adjacent valley that runs perpendicularly (north-south) to the Liucura and Llancalil valleys, just between these and what is now the border between Chile and Argentina.
[63] Here there is the exception of one interviewee who tells of a Mapuche family that lived there but left shortly after the arrival of the Millaqueo and Nahuelan families.

bank of the Liucura River[64]. As they did not want to risk anyone else returning to these already cleared lands—and the associated possibility of losing any work done in them—they decided to settle on the northern bank.

In those days, the place was, in the words of one interviewee, a "closed mountain" (*montaña cerrada*), meaning it was covered by old-growth forests, characterised by very dense undergrowth dominated by the local bamboo species (*coligüe* and *quila*). Although these kinds of forests had always had a very important place in traditional Mapuche forms of production (see discussion above), in the precarious conditions that the refugee families where enduring, by themselves—i.e. decoupled from complementary agro-pastoral systems, and the combined use of different ecological niches—they offered no viable livelihood. The transformation of these inhospitable lands into an inhabitable space is thus invariably remembered as a period of intense poverty and toil. There is only one living member of the community who recalls part of this period directly, Francisco Millaqueo, 103 years old at the time of the interview. According to his calculations, he must have been a very young child during this period, apparently around 4 or 5 years old. It is worth reproducing this period in his own words:

> They lived with a very big suffering. (...) What we the Mapuche did was in the first place, cross this river, with a little toasted flour, toasted peas as well, toasted broad beans, and they cut down green *coligües* [native bamboo], they piled them up around, and made 'broken poles' as they say (...) so to sleep under branches, which in good weather is ok. But when it rains, there's suffering (...). In the meantime, felling trees, opening up the land. Those trees are hard to dry up, they don't burn. Half a year, maybe one year, it dried, and to the fire. There they sowed a little wheat, some peas, but only a little, only a little plot. Potatoes as well, a little. Very big suffering. No money, we didn't know how to get money. (...) Hunger, very bad trail, suffering, that's what we had. That river there, in winter it got very deep, there was no way through, we had to wait for it to come down, then fell a thick *coigüe* and then we could cross, it served as a bridge. So we crossed, barefoot. Because we didn't know of shoes in those years. (...) The little ones cry of hunger, what are you going to do, there is nothing. They cry of hunger, then they go to sleep. Awake, and again. A little bit of flour, who knows what else, to keep us going. That not only happened to us, it happened all the way down as well. Mapuche towns, Nahuelanes, bigger families. Yes, that's what happened. Year on year, clearing up the mountain, sowing a little bit more, a bit more, every year a bit more, and that's how it was.

[64] Many years later, when the present road in the southern bank of the river was built, an undated, presumably Mapuche, cemetery was unearthed, which points to a possible older history of occupation of these valleys.

It is important to note the emphasis on the generalized nature of the conditions described. Francisco's family was not the only one affected by this situation, but almost the whole of the Mapuche families in the region, many of whom were suffering from the consequences of displacement: they were part of a mass movement of people, refugees who had fled the military invasion many years ago, and had undergone several years of itinerancy and precariousness before finding places suitable for settlement, at a relatively safe distance from the Chilean state in the making. The conditions that these families endured can still be glimpsed in other stories referring to the period and the times immediately preceding it, which preserve the memory of persecution and of the *cordillera* as both a place of refuge and hardship. For instance, Feliciano Millaqueo told me the story—passed on by the Mapuche families in the sector of Pichare, located downriver—of a Mapuche family that hid from the persecuting Chilean army around the wetlands just up the mountain from Huife:

> Those were people that ran uphill, to *Laguna Seca* [dry pond], there's a big *mallin* [Mapuche name for the grassy wetlands common in the region's mountain tops] (…). About three hours walk from here, uphill. They were escaping the Spaniards that were chasing them. And there they arrived, and had ran out of food. They were desperate, they would suffer from hunger and the Spaniards were on top of them. So they left one of the little children, that could not walk anymore, they left him with a bit of food and told him to hide. The others kept on going uphill, to see if they could hide as well. And then, the oldest one that was there, the *longko* [chief], dreamt, and they told him in dreams that they should go to a particular place, there would be an animal there, and they could butcher it and they would have something to eat. And the *longko* talked to his people, they heard, "go to this place, there will be an animal there". And they went, there was a big herd of animals lying there. When the animals saw them coming, they stood up and ran, they were wild animals, and only one stood there, lying, a big animal. Then they butchered it. Then, later, they came back down for the boy, and fed him.

These sort of stories convey in present memory the conditions that many of the Mapuche are remembered to have faced in the aftermath of the occupation: ruthless persecution by the army, the cordillera as a place of both refuge and hardship, and the brutality of the kind of choices people were forced to make (in this case exemplified in the choice between the survival of a small child and that of the whole family). These are conditions that transformed the *cordillera* from a route of passage to the *Puelmapu*, which it had been in the preceding centuries, to a place of refuge and, ultimately, permanent settlement.

The main concern for the families that settled on the northern bank of the Liucura river during this period was, then, to build the basic conditions for subsistence through the gradual clearing of forests, establishing very small scale slash-and-burn agriculture, the foraging of forest produce (everything from bamboo sprouts to mushrooms, but specially the seasonal harvest of *piñones*), and, later, being able to sell some products in the markets in the new regional settler towns such as Pucón. Here, some of the older members of the Mapuche families remember the importance of the silversmith skills that the first generations still preserved[65]. For instance, Feliciano Millaqueo, tells how his father embarked on trips that would last several weeks, in which he would go to markets as far as Temuco to sell silver-made objects, and bring back other produce to reinvest in their land:

> My father, he worked with silver in the old times, he learnt back in Imperial. (...) And he brought his tools (...) He had his tools to make *bombillas* [silver straw used to drink *mate*], he made spurs, headstalls, he made everything, silver stirrups as well. And then (...) he left on his horse to sell them, he went all the way to Temuco on horseback, selling spurs, rings as well (...) he went for weeks at a time selling. And then he returned with some produce, and all that while here the grandfather and grandmother stayed suffering asking, 'when will the bread arrive?', or anything to eat. And that's how my father made a little bit of money, he kept clearing the forest, paying people to help (...). And father kept on working with silver, and paid other people to clear the land. They sowed a bit of peas, potatoes, wheat (...) and stored it around, removing an oak's bark, and making a place to store the grain. And that's how my father slowly cleared up the land and worked on silver, so that later we got bigger and could live better.

As years passed, the trails and roads connecting to the regional towns gradually improved and made it possible for commercial activities to play an increasingly important role in the still largely subsistence-based local economy. In particular, the production of railroad sleepers from the sturdy, and in those days abundant, *pellín* timber was to become one of the prominent commercial activities for communities such as Huife during the following decades. As I will describe with more detail below, this process was also underpinned by the consequences that slash-and-burn agriculture had as it grew in intensity and scale with the arrival of other settlers.

[65] Working silver became very characteristic of Mapuche culture during the colonial period, and still to this day silver ornaments such as *trapelacuchas* and *trariloncos*, remain one of the main symbols of Mapuche identity.

The arrival of Chilean and German settlers.

It would still be several years before the first Chilean settlers ventured into the upper valleys of the Liucura River. According to Francisco Millaqueo, “every five or ten years” families of *campesinos* started to arrive looking for *tierras fiscales*—lands that the state had declared ‘public’, and open to be claimed. Most of the first families to venture up the valley had first been agricultural workers on nearby large estates, who would later look for land of their own to claim. It is hard to identify a precise date when this process began; it was very gradual, as it normally entailed seasonally working on opening the land for more permanent settlement, and some of the families that first arrived left decades later or have no descendants left in the area. However, from my interviews with the descendants of some of these settlers and Mapuche families, it is safe to say that by 1930 there were already several families permanently settled both in Upper Huife and Llancalil.

The name “Huife” has its origins around this time, as the Chilean settlers tried to wrap their tongues around Mapuche toponymy. Francisco, the oldest member of the community in Lower Huife recalls that "people from elsewhere would come and look for my dad as a guide, to go further into the mountain”. The upper part of the valley was known by the Mapuche families of Lower Huife to be frequented by a great deal of coots, which in mapuzungun were called ‘wed-wed’; therefore, the place was known by them as Wedhue, literally, ‘place of coots’ in mapuzungun[66]. Chilean settlers would later change this to ‘Huife’, a name easier to pronounce in Spanish, and one that would stick as more Chilean families gradually arrived and eventually became the majority. The origins of the ‘Huife’ and other local toponyms signal an original instance of what would become one of the characteristic aspects of these valleys: notwithstanding its remoteness and the relative sparsity of its population, from its very origins the emerging community was confronted with a multicultural condition that would acquire further complexity with the later arrival of German settlers to the Llancalil valley. The associated dynamics of both cultural convergence and distinctiveness would play important roles in the following decades.

The Chilean families had all come from other parts of the region, such as Loncoche, Quitratue, or Huichahue. According to their present day descendants, the first settlers were looking mainly for land to claim for their own, as the word in the region was that there were plenty of good ‘public lands’ still to be claimed in the *cordillera*. These rumours were

[66] In mapuzungun, the suffix 'hue' is a locative.

compounded by the conditions these families endured back where they were coming from, as there was no land for most and poverty was widespread among the landless. The inaccessibility of the upper valleys made of this process a very gradual one, in which people would come to work seasonally, clearing forests and making better and bigger tracks. As Baltazar Matus, a descendant from colonists in Llancalil, explains:

> My grandfather was from Quitratue. (...) From there they came looking for land around these places, all those years back. (...) At that time they came up through Llancalil, this was a really awful track. They would go into the valley on horseback, they worked the track, and later managed to get oxen carts through... Same in [upper] Huife, same thing.

In a similar way to that of the Mapuche families, the memory that the colonists' descendants keep of this period is characterised by the general hue of hardship and poverty. These lands were indeed very remote—it took three days on horseback to reach Pucón, the nearest town—and for the Chileans, whose decidedly agricultural rural culture had originally developed in the Mediterranean climate of central Chile, these cold frontier rainforests generally presented a form of chaotic wilderness; an ecology which, for the practical purposes of subsistence, was for the most part illegible. Especially during the very first period of settlement, when isolation rendered any commercial value of timber largely marginal and made of establishing a base-line subsistence agriculture a priority, clearing forests became the main concern of those wanting to lay claim to new lands. This was compounded by the fact that government officers were unlikely to recognize the claims of poor squatters unless they demonstrated beyond any doubt that their land was being occupied—which normally meant being used for agriculture or raising cattle. The forests however, were dense, and most people that settled on the frontier forests had very limited resources. As Marta, an older woman living in Upper Huife recalls:

> My grandparents came up here, and these were all virgin jungles. … They always spoke of all the miseries they went through. There was no help from the government, they had to make do on their own.

Likewise, Adolfo, another elder man in Upper Huife explains the difficulties entailed in making these forests suitable for settlement:

> It was hard work to come and clear a plot of land so that it could produce something, it took three or four years for it to produce properly. (...) It was hard because in those times there were no chainsaws, one had to fell trees with old saws.

All of these conditions made the profligate use of fire a common feature of the settling process during this period, not only in Huife, but everywhere in the region. And although the Mapuche families also made use of fire in line with their traditional slash-and-burn agricultural methods, the arrival of settlers meant a qualitative leap in scale and intensity. According to the older descendants from Mapuche, Chilean, and German families, these fires frequently got out of control, and transformed into dangerous and damaging wildfires, which would repeatedly scar the *cordillera* throughout the twentieth century. "Those burned in 85'", Baltazar Matus told me, as he pointed at the scattered dead standing stumps mentioned at the beginning of this chapter, "but the rest of those clearances below, those were made by the settlers as they began to arrive, they started to clear and burn to open up the land". Fire, which in this part of the world is almost entirely anthropogenic, became, with the arrival of settlers, a crucial element in the production of the *cordillera's* contemporary landscape.

A few years after the first Chilean families arrived, two German families settled in the Llancalil valley, the Goeppinger and the Rascheya. In the case of the Rascheya family, they were second-generation settlers coming to Llancalil from the nearby Quilaco colony, which had been settled a generation earlier in lands specially conceded by the government to European settling enterprises. In the case of both Chilean and German settlers, it was common for the families that once settled, they called on other relatives or friends to claim lands in the locality. Ilse Rascheya, now over 70 years of age, and one of the last remaining permanent residents in the upper Llancalil valley, remembers:

> My father arrived in 1906, 1908, sometime around then. He was 4 years old when he arrived in Chile [from Germany with his family], very young. They arrived in Valdivia. From there, they took them to Quilaco, and were assigned a plot of land there. (...) When the old ones died, the new ones each looked for different horizons. Here [in Llancalil] were the lands that they later requested from the Chilean government. (...) The forests were cleared by fire. (...) [My husband's family] came from Quitratue (...). They were Chileans. A cousin of my father-in-law, he had arrived here before, and as there still was land left he brought him over. (...) [Those who came here] were people that sometimes worked in the *fundos* [large estates], maybe they made some contacts around, heard that there was some land around, and occupied them. Afterwards they sorted the papers out with the government. (...) It took a great deal of effort [to regularize land tenure]. Several years went by living just like that, without papers. They usually came to settle way before doing any paperwork.

Likewise, Ana Goeppinger, of a younger generation and now resident in Lefincul a few miles downriver, recalls that

> [My] grandfather used to say that they made the road with shovels… the government had given them a pair of oxen, shovels, hoes, and an axe. And that was it. … At first it was only his family, but later other friends of his from Germany arrived, and they kept settling [*colonizando*] (…).

As I will describe with further detail below, this support that the state gave to German families, though apparently modest, made an important difference in the context of the dire conditions of the period.

The regularization of land claims, the state, and stratification.

As in the rest of the region, this whole process of settlement was largely spontaneous and lacked any direct oversight by the state, whose role was generally limited to the *post facto* regularization of occupied lands. Nevertheless, this regularization process was a fundamental intervention as it was thoroughly mediated by officially sanctioned racial and gendered differentiations that would become cemented in the agrarian structure itself. Only male settlers were able to claim public lands, and the regularization process was beset by racial biases, as the Mapuche were systematically disfavoured in the litigation of overlapping claims, done in the Spanish-speaking courts of the occupying state. In addition, German settlers apparently got preferential support from authorities, and had fewer problems getting their titles, which some remember were obtained with much greater celerity than was the case with other settlers, many of whose fights to get their lands recognized were even passed on to the next generation.

The process of regularization would be the source of a series of land conflicts still remembered by the older members of the Mapuche families in lower Huife, in which they claim to have lost a substantial part of the lands their families originally occupied. This defined a tense relationship with some of the Chilean families that originally settled around lower Huife in the very early days of settlement. As an older member of the community in Lower Huife recalls:

> My father's father had solicited more land than that he ended up having. The *wingka* took his land upriver. They came afterwards, (...) and took from my father there. And here there was another one as well, and they took from my dad, so my father ended up pretty insignificant [*quedó medio chico mi papá*] (...) and fighting over the line [land limits]. [The struggle was about making sure] That they took no more land, that the move further over there, (...) and defending one's part. (...) What happened was that we the Mapuche had no word to defend ourselves. Those who went to the offices in Loncoche or Temuco didn't

> understand, they knew little of how to speak *castilla* [castilian spanish], and that's why they got surrounded, they got very little land... and Chilean people, those got to the office and talked and talked, and the Mapuche just stood there, didn't understand... they didn't know how to read... that's why we got so little land.

Although most elders in lower Huife consider that the Mapuche families were generally disfavoured by the regularization process—as was the case for the overwhelming majority of the Mapuche in the region during this period (see Correa et. al. 2005)—with the progressive settlement of claims and land titles these conflicts appear to have eventually subsided, especially as families began to intermarry. Feliciano Millaqueo says that, after some years "with the title on hand, things calmed down, and [settlers and Mapuche] treated each other as neighbours. They greeted each other, and did *cambio de mano* [reciprocal labour], they got married". As I will develop in more detail below, this illustrated a tension that marks the history of the communities: the production of a common identity, rooted in the shared habitation of these valleys; a perpetually tentative *commons* always in tension with the complex interplay and evolution of economic stratification and ethnic difference.

It is important to note that throughout the region post-reductional Mapuche lands were normally recognized through the so-called 'Títulos de Merced'[67], special titles handed by the state to Mapuche families, and through which they constituted officially recognized 'indigenous communities'. This was, however, not the case with the families that settled in Huife. Apparently because of their isolation from other families alongside whom the state would recognize a 'Mapuche community', these families had to regularize their lands through the same process as those of the Chilean settlers: submitting their claims to *tierras fiscales* (public lands) to the "Office of Land and Colonization" [*Oficina de Tierras y Colonización*], having them measured by a government topographer, acquiring a title, and finally getting it registered in the Land Registry. "Here we got settler titles, as Chileans, not *títulos de merced*. … We didn't arrive here as community, we arrived as families", explains Luis Hernán, the current head of the Mapuche community in Lower Huife. This meant that, until very recently[68], the lands of these families had no official recognition as being indigenous.

[67] These were titles especially conferred by the Chilean state to the Mapuche, which established the figure of 'the indigenous community', that although foreign to original Mapuche forms of organization and territoriality (which, as described previously, hinged around extended patrilineal lineages and agro-pastoral mobility) would become central to the form in which both resistance and state domination would be exerted henceforth. See Correa et. al. 2005

[68] The Millaqueo family would officially constitute themselves as 'indigenous community' only in 2001. See Chapter 5.

German families, on the other hand, had in the previous generation acquired lands in the region through the special settlement schemes facilitated by the government to settlers of European origin. According to some interviewees, in settling Llancalil they got preferential treatment by the state, mainly consisting of the material supports mentioned earlier and a quicker and less cumbersome process to get their titles. This was significant, as for most families this process of regularization of land claims normally took many years, in some cases decades. On the other hand, in this initial period even a relatively modest support, such as a pair of oxen, could make an important difference over time. As a member of a Mapuche family in Lower Huife explains:

> That is why [that generation of German] settlers generally did better in life, because they got support from the state. The Chilean settlers came making their *roces* [burning the forests to cultivate], the Mapuche making *roces*, fighting to define their lands, and the state did nothing. But to the German settlers the state gave oxen, as initial capital. So Chilean and Mapuche settlers began to work for them sometimes, and the Germans 'went up' [got richer].

In this way, ethnic difference and economic stratification became entangled, albeit in ways which in the following generations would prove to be non-linear and highly complex.

The agrarian structure emergent from the settling process

Land tenure

The agrarian structure resulting from this settlement process would present important differences to the one that would dominate the valleys around the nearby towns of Pucón and Villarrica—and indeed, Chilean rural society in general—up until the Land Reform of the late 1960s and early 70s, whose main form was that of the *latifundio*, *hacienda* or large estate. As a consequence of the spontaneous frontier settlement process described above, small and medium scale holdings[69] had spread in mountain valleys such as Huife and Llancalil, with plot extensions averaging around 70 or 80 hectares in this particular location[70]. These extensions are to some extent misleading, however, as when they were claimed most of them consisted either

[69] Here 'small and medium' are not understood not in strict terms of extension/farm size, but rather in terms of the type of farming and the relations through which it was undertaken, in this case mostly through family labour. See Bernstein 2010.

[70] In contrast, surrounding haciendas normally extended for thousands of hectares.

of mountain slopes of varying inclinations, and/or thick forests. Also, these plots where mostly worked with family labour. Both of these factors placed a limit to the amount of land that could be put to productive use in this period, which normally did not exceed a few hectares, albeit continually growing as communities consolidated, lands became subdivided through inheritance, and forests were cleared.

As mentioned, differences in quantity and quality of land, added in some cases to differing initial resources, would underpin the progressive development of a certain local stratification, as for example, some families relied to different degrees on complementary wage labour in others' lands for subsistence. But according to interviewees, most if not all extended families had access to land, which precluded the formation of a locally resident rural proletariat[71] and therefore the development of class antagonisms to the extent, persistence, and depth that would characterise the *latifundio* in the lower valleys. According to interviewees, the *inquilinaje*[72]—the fundamental relation of the contemporary rural social structure—was only of a circumstantial or exceptional nature in this particular area.

Once land titles were settled the main differences in access to land became articulated around gender and generational divisions: as previously mentioned, only men could claim public lands, and, as inherited land was split amongst siblings, new generations tended to receive progressively smaller plots. This established mobility patterns whose main features have accompanied the communities' history to this day; a diasporic element embedded in the territorial constitution of these communities since their inception. On the one hand, it was common for at least part of the families' male siblings to sell their lands to other family members and to migrate to other regions and cities, sometimes across the border to Argentina. On the other hand, given that they only exceptionally had direct claims over land, women might also leave the communities, establishing a clear patrilocal tendency in marriages. However, far from cutting ties with their communities of origin, these migrant members of the communities have been fundamental in the establishment of multiple relations with other regions and localities that feed into the construction of a particular, territorially rooted, identity—they in fact extend community ties geographically, as many of these members maintain active relations to their lands and families. Moreover, as will be described in greater detail on the next chapter, many of

[71] By this I mean a proletariat articulated to local capital. These communities indeed produced increasing numbers of proletarians in each generation, as plots where subdivided among siblings, and land became scarcer. They, however, tended to migrate to cities or other regions (see below).
[72] The *inquilino*, roughly translated as "tenant", was a labourer which was allowed to work an estate's marginal lands in exchange for labour for the landlord.

these migrations describe a long cycle, in which members of later generations lived a good part of their adult lives working outside the territory, but settled back years after, sometimes upon retirement. In fact, this situation describes that of a sizeable part of the contemporary resident population.

Agriculture and the metabolism of settlement

During the period following settlement, these thickly forested lands offered what older members of the communities remember as a truly exceptional fertility. "Land was very good in those years, whatever one sowed, it grew", as Félix Salazar, a 70 year old inhabitant from Upper Huife recalls his father and grandfather telling him. These were lands that had never been sown before, and crops grew effortlessly and vigorously amongst the thick ashes of the burnt biomass. This production was complemented by the foraging of the various resources offered by the forests, such as mushrooms, bamboo shoots, fishing, but above all the seasonal harvesting of *piñones*, which provided a crucial part of winter diets. Timber was also very important for the construction of dwellings; the so-called *casa canoga*[73] became the common form of dwelling during the settlement period. Most of these cultural elements were, to be sure, acquired from the Mapuche knowledge of these forests, and became one of the central pillars of the reproduction of settler families during this period.

Notwithstanding the exceptional fertility, the scale of agricultural production was confined to sustaining a subsistence economy in this first stage after settlement, or the first generation of settlers. Slash-and-burn agriculture thus provided the metabolic basis for the families to establish a foothold in these lands; one that would thoroughly transform these valleys, and thus, eventually, the ecological underpinnings and economic strategies of the communities as well. As Osvaldo, an older resident of Lower Huife, describes this method:

> One burned [the forest] and after the fire, one sowed. Wheat, broad beans, oats, potatoes. We sowed potatoes with a hoe, in the *roce* [burnt forest]. We just sowed among the roots, and covered the seed as best we could. And potatoes grew very well. After, when the root rotted, we took the root out and sowed more potatoes. And while there was still *tierra de hoja* [topsoil] left, the harvests were very good. Now the soil does not yield, not as it did … the costs are not worth it. … When one burns a plot for the first time it burns only

[73] This consisted in a one room house made out of long trunks with its centres carved out—in the manner of a canoe with both of its extremes cut out—and placed against each other in the manner of roof tiles, which provided drainage and required almost no other materials.

> superficially, and all the roots remain underneath. And later the trees start falling, the branches, you put them together and then one has to burn it again. But only part of the whole land, because the sowed plots were always more or less small.

This form of agriculture could hardly be sustained for too long, especially given the tendency towards a progressive subdivision of family plots. People identify an unequivocal tendency throughout the decades towards gradually falling yields due to the exhaustion of the topsoil, as the method and growing intensity of cultivation intersected with the sloped nature of the terrain and the rainy climate typical of the region, which made the exposed soils vulnerable to erosion. As Feliciano, an older member of a Mapuche family in Lower Huife told me, in a matter-of-fact yet still lamented way:

> There is none [fertile soil] left, it all got lost. The land is old, as oneself. It doesn't have strength. All its strength went to the sea, the river took it. (…) Because the land has no woods, the land is stripped [*está pelado*], and if it is a slope, everything runs [with the rains].

This tendency in agricultural productivity became associated with the growing importance of commercial activities in local livelihood strategies, especially from the second generation of settlers onwards. These activities grew in importance as tracks were improved, albeit slowly and marginally. In particular, the first important commercial activity the communities engaged in was the sale of railroad sleepers, which were extracted from the forests that were being cleared in this period. These sleepers were made with axes, and transported to local towns in oxen carts. This transition was an important characteristic distinguishing the first and second generations of settlers, as Osvaldo, who is a second-generation descendent from Chilean settlers, now part of the Mapuche community in Lower Huife, explains:

> Before people didn't sell any wood, everything got burned in order to sow wheat, oats, and potatoes. … Afterwards it was that sleepers were being sold, in the second generation, when those of us who are 80 were kids.

This transition was, however, in some ways tendentially inscribed in the socio-ecological strategy of the settlement process. The fertility and relatively high yields afforded by slash-and-burn allowed these communities to gain a foothold in an otherwise hostile environment. Insofar as this method proved successful in producing the inhabitability of this valleys, it could not be sustained as plots were subdivided, forests receded, and initial fertility declined. The transformed socio-ecological conditions necessarily implied a change in the livelihood strategies of the following generations, notably the growing role of small-scale commercial exploitation of forests—the production of railroad sleepers—and cattle rearing in local economies as

agricultural lands were increasingly transformed into pastures and meadows. In this sense the changes in the landscape through which the communities in these valleys constituted themselves would become increasingly mediated by their relations to local and national markets, a process of relentless commodification of the subsistence economies that were established through the settlement process. In this way, the process of retreating forests and extension of grasslands for cattle became inextricably embedded in this overarching tendency towards the commodification of subsistence, which as Bernstein (2010) argues, can be seen as one of the defining tendencies of the evolution of peasantries under capitalism over the last century. This trajectory will be further explored in the next chapter.

Commons and difference in the socio-territorial constitution of Huife and Llancalil

Throughout this chapter I have used the term "community" and/or "communities" somewhat loosely, as a way to signal the shared identities and relations of solidarity articulated in reference to a common relation to the landscape, i.e. identities and solidarities which are, to different degrees, territorially rooted, and which, to be sure, have notably permeable and diffuse bounds. These territorial identities and the sense of community they imply are important precisely because of the salience they have acquired and the crucial role they have played during the course of the conflicts around the possibility of the Llancalil hydropower project, and scales introduced by it (such as those implied in the notion of 'national interest' normally accompanying projects such as these). How did such a commons emerge from the process described above, one characterized by the convergence of such radical forms of difference?

As this chapter has described, the historical constitution of these valleys as an inhabited space was characterised by the convergence of many different paths and trajectories that had emerged from the chaotic process of occupation and primitive accumulation during the last decades of the nineteenth century: Mapuche refugees, Chilean landless *campesinos*, and German settlers. The convergence in these remote mountain valleys of families and peoples bearers of often radically different histories is a necessarily complex picture to reconstruct, but it is clearly sedimented in the complex identities of their descendants, and the way they relate to this history. In general terms, these identities, and the stories and testimonies that reflected them, suggest a process defined by the generative tension between the production of a necessary commons rooted in the co-habitation of these remote mountain valleys, and the persistence and evolution of difference, structured around the internally related axes of

economic stratification, hierarchically articulated ethnic difference, and gender. Some important elements in the material sustainment of these differences, such as the different positionalities vis-à-vis the state and the forms of land tenure, have been suggested in the course of this chapter. How these tensions have evolved to the present day will be examined in more detail in the next one.

Of the three main ethnic origins of the families in these valleys, the Chilean *campesinos* would end up making up the majority. As I previously described, the Mapuche families established themselves on the northern bank of the Liucura River, in what is now Lower Huife, while both of the German families settled lands in the upriver Llancalil valley. Chilean families would settle in Upper Huife, Llancalil, Papal, and around the Mapuche families in Lower Huife. As I described earlier, there were important land conflicts in the first period of settlement, in particular between the Mapuche and some neighbouring Chilean settlers. Nonetheless, especially with the second and third generations, a clear cultural commons emerged, derived from the shared geographical and agrarian conditions, but above all from the gradual development of relations of kinship and labour across ethnic lines. As previously mentioned, practices taken from Mapuche ecological knowledge, such as *piñoneo*, and the usage of different forest resources became part of the basic territorial knowledge and practice of everyone, Chileans and Germans included. Thus a common metabolism emerged, and with it, a common cultural ground, which deepened as families intermarried, and new generations grew together. These 'cultural commons' were expressed in elements such as the technique of making houses, the livelihood and productive strategies, food, and symbols of prestige (such as, for instance the different types of houses, the ones made of wooden tiles being a symbol of wealth, in contrast to the *casas canoga*). And above all, it was expressed through the creation of identities that blurred and/or moved across any strict ethnic boundaries, or highlighted some axes of differentiation over others[74]. This latter point is well illustrated, for instance, by the case of Denisse, who is married to the current head of the Millaqueo Mapuche community in Lower Huife. Although of German/Chilean descent, she "feels Mapuche", as she has "lived in the *cordillera*" all her life. Identity is thus, in this case, linked not only to descent, but to a particular way of life, and relations of kinship established throughout the course of one's life. The changing relative importance of these different markers of identity needs to be thus seen as contextually determined, as different situations shed different light on the complex texture of difference and commonality emergent from the history here presented. In particular, and as I will show in the

[74] For instance, some Mapuche became relatively wealthy vis-à-vis some Chileans, in which case as an interviewee put it "at the end of the day, money mattered more as to who was the best of whom".

following chapter, the meaning and value of being 'Mapuche' has been subject to many changes across the generations, especially as mediating a differentiated relation to state power.

This chapter has attempted to explore the socio-territorial constitution of what, in the context of the current struggles associated to the hydropower plant, appear as a *territorial and historical commons*, and the identities attached to it. These constitute a fundamental part of the present conflict, as references to tales told by the previous generations of the hardships and struggles involved in the settlement process have become a central part of the local counter-narratives around the prospect of the hydropower project. The history sedimented in the local landscape constitutes a layer of meaning and value that challenge and decentre the discussion when placed in terms of 'how much is the land/river worth'—the crucial but always problematic manoeuvre of imposing an exchange value on land or water—, as it necessarily references a common social (and ecological) body, one that although not officially legible (it has no institutional form), nonetheless arises as part of what Polanyi (2001) referred to as the double movement: how social-ecologies protect themselves against the real abstractions of commodification.

5. Living in Huife: semi-proletarianisation, the tourist economy, and the shifting grounds of identity

As I highlighted at the beginning of the previous chapter, the history presented there constitutes not only an approximation of the way in which the human community in Huife came to be, but perhaps more significantly, it describes a centrepiece in the general frame of meaning through which, for those whose identities are linked to these places, current events, transformations, and trends acquire their collective significance and value—it is in relation to these local histories that events appear as either challenges, threats, and/or opportunities. Furthermore, this is a frame of meaning inscribed in the local landscape and its changing ecology, in the mountains scarred by the fires brought about and endured by previous generations; in the slow march of young forests over lands left idle by the slow decline of *campesino* commercial production; and the related new and contested potentials that these lands hold in the context of the determinant role that wage labour and semi-urban life have acquired in the livelihoods of the young. In this chapter I will describe these and other aspects that, in the context of the conflict introduced by the Llancalil hydropower project, have emerged as some of the crucial dimensions of the local peoples' relation to their territories.

I will first analyse the complexities involved in the differentiated and multifaceted relations to the territory entailed by the condition of semi-proletarianisation that define these communities in the present. Most people fall at some point in the spectrum that the notion of semi-proletarianisation describes—with full-wage dependence at one end, and rural production at the other—a position that shifts through the different stages in people's lives. Among other things, this means that when we talk about 'the community' we are speaking of a human group and a social commons whose geography encompasses but is not limited to to these valleys. It is from the internal relations between the different elements in this extended geography of the semi-proletarian condition that many of the values of the territory emerge.

I will then describe the livelihood strategies that are centred in the territory, and place particular attention on the deeply ambivalent relation local territorialities have with the tourist economy. The tourist economy, through the fraught dialectics between the use-values it has projected onto the territory and its effects on real estate dynamics, is locally regarded to be the source of the gravest threats to local territories, while at the same time positing the terms in

which local futures are envisioned. Finally, I will focus on the issue of ethnic difference and the Mapuche condition, as one of the core aspects that have been mobilised in the course of the conflict.

Social reproduction and the extended geography of the communities

As mentioned in the previous chapter, the geographies, mobilities, and temporalities of the area's communities make their demographic contours porous and diffuse. As a consequence, the complexity of the community's relations to the territory are hardly susceptible to be derived from official census data[75], or, for that matter, the studies commissioned by the hydropower company for the project's assessment, which treat the communities as coextensive to 'permanent' residents.

Of course, official data do reflect important aspects of the communities' reality and the conditions of their social reproduction. It is easy, for example, to observe in the field that an important proportion of the permanent residents in the area are over 50 years of age, a pattern that is consistent with the national tendency towards a rapid ageing of the rural population. These demographic trends are locally perceived and explained mostly in terms of the dwindling opportunities that young people find in rural areas such as these, regarding both education and work. In one of our first conversations, Luis Hernán, the president of the Millaqueo Millahual community, told me that there were very few young adults left in the locality, and most young people tend to leave, either to study or work. This for him was a direct effect of the Municipal government policies, which, among other things, have in the past years privileged bigger and fewer schools, centralised in denser rural areas, and have closed down the local schools in upper and lower Huife[76]. For him, it was clear that these sort of policies made it very difficult to project oneself in the area, particularly as a young person. Take for example, the words of Adiba Millaqueo's, Luis' 36-year-old cousin with whom I spoke in Lower Huife:

> People leave because of work, there is much more work outside than here. [Here] there is little work, and whatever little there is, it is only to survive, but not to do other things one would like. Por example, in Santiago the boys earn more … they have enough, for example,

[75] The official census data for the area of study is only disaggregated up to the municipal level, for which in 2017 was reported a population 28,523, 63,4% of which is urban, and 35,7% rural.
[76] This contrasted with the policy in the neighbouring Municipality of Curarrehue, where rural schools have remained open.

> to keep on studying. Here the wage is the minimum, one can make do, but not have anything more.

Nevertheless, the situation is much more complicated than the simple linear trend so often portrayed of migratory trends draining rural territories of their young; a complexity that was reflected in local understandings of these trends. Adiba's own story is a good example of this. I spoke with her and her sister during the late summer, as she took a break from working on her then almost finished new cottage in a small plot of land she had inherited in Lower Huife. For years she had lived a few miles downriver in Huepil and Lefincul and worked on the local fish farms, finally moving to Pucón a few years back. She had thought of selling the plot in Lower Huife, "but then", she told me, "we said 'no'. Because there is nothing like having a plot of one's own, money goes away, but land doesn't, it only increases its value. We took the sign off, and said, 'it is no longer for sale'". When I spoke with her she was still based in Pucón, but was in the process of moving back to lower Huife, in order to, as she put it, "exploit tourism".

Adiba's case resonates with the way I found demographic movements to be generally understood locally. Although the lack of local opportunities for the young was widely recognised as a problem, local explanations were also emphatic in recognising that the out-migration of young people, far from severing ties with the territory (which, of course, did also happen in some cases), extended the territory's links to other parts of the region and the country, as many of those that left came back, either temporarily or permanently, at some points in their lives. Indeed, as mentioned in the previous chapter, migratory patterns have been a part of these communities since their inception, and were considered to be a normal part of the long cycles of people's life phases. For instance, Guillermina, at the time head of the Huife Neighbours Council, and fierce opponent of the hydropower project, told me, in the context of discussing these trends,

> I was raised here, until I was twelve, and then I moved [to Santiago]. I studied, and then I studied and worked when I was older. Much later I came back, because it is a root one cannot sell.

In a similar vein, Luis Hernán, told me that,

> Young people leave for Pucón, and beyond. There are many who have gone to the North, to work for the mining companies. … What I do notice is that many have the idea of getting back here, those that left to work outside because of their profession or trade are now with the idea of building [a house] and living here. That's like their goal. They have the project of saving money, and come back to Huife to their territory to build and live out their resting

> times. Many of the younger ones have the project of returning to Huife. … My cousin next door [Adiba], for example, she just arrived to establish herself back here.

Luis Hernán, who at the time was in his late thirties, is one of the few members of his generation in his community who has mostly remained in the territory, and lives permanently in Lower Huife. His older brother, Omer, on the other hand, had left for different towns with his family years ago, and was now coming most weekends to work a small plot of land in the community. I spoke to him when he and his family arrived for a public meeting with the company behind the project (see Chapter 7).

> Look, I think that everyone, all the youths, go to towns and cities because there it is easier to make a living. In the town you can progress more easily. It is easier in terms of the job, education, and everything. But it comes a time in which you stagnate, in the sense that your concern is now yourself and your partner, and the little ones take care of their own life. And it is at that point in which one wants to go back and spend time in the countryside, you need less to get by, less to get through, and that's how it turns out, I see people of 45 or 50 years of age and up, that if they don't have a safe job it will be hard to get one. So one also sees this from that angle, and the day I am without a job I don't want to work for a boss any more [*no quiero volver más a trabajar apatronado*], you want to come back, the land is there, work with just a little bit, and make life.

In this way, it is easy to see that the community of people that cultivate both material and symbolic links to these lands far exceeds those that appear at first sight as the 'permanent' residents. Furthermore, this is a condition that, as explained in the previous chapter, finds its roots in some of the inheritance aspects of the agrarian structure, and the tendency toward patrilocality in marriages; conditions that make both the young and female more mobile. As such, for these communities mobility is far from being an extrinsic characteristic, although its conditions and intensity are strongly modulated by the effects that the neoliberal era has had upon livelihoods, real estate, municipal policies, etc. Many like Guillermina, who are now permanent residents, migrated to cities at some point during their lives, some made most of their lives there, to finally come back to the territory after they turned 50. The few conversations I was able to have with young people—which were much more rare due to the fact that most of them lived in regional towns studying, working, or in some cases doing military service—far from reflecting a purported severance of new generations from rural territorialities, expressed the myriad ways in which the territory participates in the complex geographies through which the life-histories that make up these generational layers of the communities take place. For instance, just as I was introducing myself to the community, I had a brief exchange with a young man,

possibly around 17 or 18 years old, who was doing his military service and had come back home to visit. I had come asking for his mother, who I had been told lived in a small cottage just by the side of the portion of the river the Llancalil project would drain. After he told me that she was not there, he went on to say that he loved this valley in which he grew up, and that he would stop anyone who would mess up the river in front of his house by any means necessary, including, he said, sabotaging the machinery with his friends. His links with the land seemed far from severed. Another example was that of a member of the Goeppinger family, in his late twenties, who had studied in Temuco, and now lived in Pichares, a few miles downstream. He was at the time involved in setting up a tourist network/circuit specially focused on the Liucura valley, including the localities of Huife and Llancalil, where his family had lands. These are some examples of the constant glimpses one could come across of the many ways in which important parts of the communities were present *in absentia*; of how, in spite of distance, their relations to the territory retained their symbolic and material significance.

There were multiple ways in which these relations were expressed in the conversations I had. The reasons people gave for coming back to these lands, for example, varied, but most revolved around the feelings of attachment to the land, a feeling associated with the way in which these valleys participate in people's sense of identity. For many, as for example Omer, it is the contrast with the very experience of urban life and wage labour that gives life in the countryside much of its value; ie. the fact that, while it offers little by the way of economic possibilities, having land does give a sense of security and autonomy many times lacking in urban life. The common environmental qualities of the territory also become much more valued by those that have lived in urban settings; references to tranquility, abundance and quality of water (see Chapter 6), silence, etc, were often brought up in conversations about these issues. Take for example what Graciela Krausse, who lives in Llancalil, told me when I asked what she valued most of living in these lands:

> The tranquility of nature, because here, imagine, one sometimes doesn't even know what day it is (laughs)... and here one is free because, for example, there in town one has a time schedule, one has to conform to certain obligations… here one is one's own boss, if I want I skip work for a day, or [work] just what is needed and that's it. But if one has a boss [*si está apatronado*] one has to comply. One has greater independence here. It is harder, but there is a freedom… The cost also, here it is cheaper, in the town one has to buy everything. And [what] if you don't have money? Here, on the other hand, say you don't have much money, but you have the meat that you produce, an orchard, so then it is not so bad, or one has at least enough to defend oneself, but the one who works in town, if you don't have a job

> you're screwed. … That's the difference, here if the *campesino* goes hungry it would be… you'd have to be really lazy (laughs).

In Graciela's testimony, life in the territory offers a certain degree of autonomy from the work and time discipline imposed by wage dependence that characterises urban life (Thompson 1967), a question that in our conversation she weaved seamlessly with environmental qualities such as tranquility, and free access to water, forests, and other resources. For Adiba and Omer, who were both in the process of transition back to their community's lands, these same elements stood out, and were similarly attached to the environmental qualities of the landscape.

It is important to point out that, in this sense, many of the values locally attached to the territory *emerge from the internal relations between the different elements that make up the extended geographies of social reproduction in these communities,* a geography of partial proletarianisation expressed in life-histories that navigate and negotiate between wage work and the self-creating possibilities opened by the city, and the 'austere autonomy' and sense of identity offered by their rural territories. The relative importance of these values, of course, changes throughout the different phases of people's lives, and the different concerns and needs that each of these phases imply.

Livelihoods and territory: living in Huife

One thing one can conclude from the previous section, is that while the different places of work constitute differentiated relations to the territory, it is impossible to approach these communities through a strict distinction between those 'who left' and those that 'remain'. The dynamics involved in different livelihood strategies normally situate people on different points along a spectrum between, at one end, those that have left and settled elsewhere, and, on the other, those that largely depend on activities that take place in Huife itself. In this section I will look more closely to these latter strategies. In general, and especially for those of younger families with access to land (whether their own or their extended families'), these strategies tend to combine several different sorts of activities, which may range from working different trades and/or wage labour in the area or in nearby towns, to commercial livestock rearing, and production for household consumption. Luis Hernán from lower Huife explained to me that "generally, young families have a variety of sources of income. I, for instance, live off making furniture, off renting the cottages I've built, off my sheep, some gathering, etc." Nevertheless, the combination and proportion of these different activities varies considerably between

families; while some rely almost exclusively on cattle production—as is particularly the case for many families in upper Huife and Llancalil—others rely much more heavily on wage work, or on the different local aspects of the tourism economy. In the case of most if not all of members of older generations, the basic government pension (*Pensión Básica Solidaria de Vejez*), which at the time amounted to a monthly payment of around 130 USD, constitutes a fundamental, if precarious, base for their household's economies. This is especially true for those that cannot rely too much on direct support from younger members of the family.

Cattle rearing

The main form of commercial production for the more permanent residents in the area has for many years now been livestock rearing, cattle in particular. As described in the previous chapter, the main ecological transformation that came as a consequence of (and condition for) the first generations' settlement of this area consisted in the clearing of forests through slash and burn subsistence agriculture and small-scale commercial production of railroad sleepers. This would tendentially degrade the soil conditions that sustained the (initially exceptional) agricultural yields, which would in turn eventually give way to the cultivation of pastures for cattle.

Nowadays, this activity mostly combines the cultivation of oat and clover fields, and the seasonal combined usage of the different ecological levels in the mountains[77]. Many grazing areas correspond to a patchwork of bush and grass lands and the secondary forests that have slowly reclaimed the mountain slopes over the past few decades. Nowadays, it is common to see cattle roaming freely between pastures and young forests, grazing on grass and the local bamboo species known as *quila* (*chusquea quila)*, as well as, in season, on the *piñones* seeds shed by the araucaria forests located in the higher parts of the mountains. Nestor Salazar, who lives in Papal and for whom cattle rearing constitutes his main activity, says that,

> one cultivates meadows to reap fodder, pastures they call them. That is what is being mostly done now. … One cultivates the land first, to kill off the weeds, the grasses, and then one sows the oats with the clover, and you get the pasture.

[77] This is the seasonal alternation between pasturing sites, in Chile known as *invernadas* (winter grazelands) and *veranadas* (summer grazelands); the former in the lower parts of the valleys, and the latter normally consisting in the natural meadows and undergrowth in high parts of the mountains.

Figure 16. Pastures and grazing grounds in Llancalil. Taken by author, March 2016.

The continued access of animals to water sources is fundamental to this activity, and it is one of the main concerns people in upper Huife have regarding the hydropower project, since cattle normally access the river to drink in the area that would be directly affected.

The varieties bred in the area are those for meat production, normally Angus, plus one variety locally known as *Clavela*. Generally the animals are sold live to intermediaries who then take them to the regional markets and fairs. Baltazar Matus, who has lands on both upper Huife and Llancalil, says that "the calves are sold at the fair, in Freire [in the coastal parts of the region]. We sell them live. A full calf would be around 280 or 300 thousand pesos", around 440 USD. According to the people I interviewed, prices have been for years on a downward trend, in particular in relation to the price of land, which has increased dramatically (see section below). Marta, from upper Huife, says that

> The price of the animals is always getting worse. It is almost not worth it to raise them. They pay too little for a live animal, but they do charge a lot for meat … so one basically works for the butchers. … The animals used to be have a much better price, and the land was cheap. Before, for just one calf one could get a hectare of land. Now a hectare around here is around 5 million pesos, imagine how many calves one would have to sell to buy a hectare, like ten for a hectare of land. ... No, I think that now animals are not worth anything. We got to buy land back in those years, when it was still cheap. Now we don't buy anything, it is too expensive.

I this sense, most describe the situation as one in which, if one has enough land, you can sustain yourself—"it is enough to eat"—but it is hardly enough to generate significant savings.

Production and gathering for household consumption

Cattle rearing, which tends to be a male-dominated activity, is usually complemented by a very varied range of activities for household consumption, which tend in turn to be done by women; although neither of these are strict norms. Nearly all houses have some kind of backyard orchard in which a great diversity of species are cultivated, like tomatoes, chards, beans, quinoa, maize, squash, and many others. A great proportion of houses also have small greenhouses, in which production is carried on year-round. Fruit trees like apple, peach, cherry, and maqui[78] are also common in people's backyards. Cultivation of potato, an important local staple food, is also very common for household consumption. Backyard animals normally found in the area include chickens, turkeys, geese, rabbits, pigs, sheep, and horses; the latter mostly used for local transportation.

Figure 17. A domestic orchard in Papal. Taken by the author, March 2016.

[78] *Aristotelia chilensis* is a tree native to the region, which produces small blue berries, locally known as *maquis*.

Figure 18. Fruit trees in Papal, overlooking lower Huife. Taken by the author, March 2016.

The gathering and usage of different forest products plays an important role as well. Of these, perhaps the most important one is firewood, which, being as it is the main local source of combustion for heating and cooking throughout the year, constitutes a fundamental resource for households, and in some cases may also be sold. Timber is also harvested for certain construction needs, like fences, sheds, or simple kinds of furniture (which, at least in the case of Luis Hernán, was also a commercial activity). Different edible fungi species, like *digueñe* (Cyttaria espinosae) and *changle (*Ramaria flava*),* which respectively grow on and underneath the *hualle* trees that dominate the surrounding secondary forests, are gathered during the season. In addition, there is a wide range of medicinal plants that are used locally, both by Mapuche and non-Mapuche families. Osvaldo Ibarra in lower Huife says that,

> People still gather the *poleo*, the mint, *llanten*, *matico*, *paramela*, and quinchamalí. … Some of these have to be gathered in the Reserve [the old-growth forests in the adjacent Huerquehue National Park], but in addition not too long ago we gathered *trunes* and *michay* root, *nalcas*, *chilco*, and oak bark, *mallín* mud, to use them as wool dye.

Wild berries such as blackberries and sweet-brier also grow copiously in the local meadows. These are normally collected during the summer months and conserved either as jams, or prepared as *kuchen*, a sort of baked tart of German origin typical of the region. Both of these products are sometimes sold to tourists along the side of the main road.

Figure 19. Picture taken by the author in Llancalil, with quila bamboo and berry bushes in the front, and a forest patch of both young and old trees in the background. March 2016.

Figure 20. Forests between Llancalil and upper Huife where people gather different products, and the potential site through which the hydropower plant's pipes would pass. Taken by the author, March 1206

Also, as described in the previous chapter, the seasonal foraging of the *araucaria* pine nuts, or *piñones*, has historically been, and continues to be, an important source of winter food, both for human and animal consumption. Finally, the fishing of rainbow trout (Oncorhynchus mykiss) in the Liucura river used to provide another significant source of food; however, most people say that the amount and size of fish have diminished considerably over the last decades[79], and now people rarely rely on this activity. Luis Hernán, speaking of these last activities says that,

> People gather *digueñes*, blackberries, *nalcas*, the *changles* and *gargales*, which we go to upper Huife and Llancalil to get, the same as *piñones*, which there one can find more, and of a better quality. And fishing on the river … well, overfishing has taken a toll. Before, fifteen years ago, one could go and bring something back for dinner, but now if one goes fishing to bring something for dinner, one will have to make do without dinner.

Forests and markets

As we saw in the previous chapter, during most of the communities' history commercial forestry, tethered as it was to a peasant economy of subsistence production, remained small in scale. It consisted of the production of railroad sleepers for sale in local town markets; the supply of which also remained limited by the precarious means of transport and roads that connected these towns to frontier forest territories such as Huife. This was also production done with very limited technical means, which mostly consisted of axes and hand-operated saws. It was only during the 1960s that some settlers invested in sawmills, powered by small water turbines, on which other local people worked as wage labourers as well. By all accounts, however, the overall impact of these sawmills remained limited. Baltazar Matus told me, pointing to the other side of his land in Llancalil, that "just there the German settler who was around bought a sawmill, and with the waterfall he made a turbine, and that's how it worked. … With the years more people started buying those motor-powered sawmills".

During the early eighties however, outside companies started to rent forests to some families for exploitation. Matus told me that, during those years,

> Big firms started coming in. Martiní was one … there was another based in Villarrica that was called Ecomabi [?] … it bought forests and exploited timber. … The owner of the land

[79] There are many possible reasons for this, the most important of which is probably overfishing in spawning season downstream. Some people I talked with also said that the logging company workers that came to upper Huife during the late eighties fished them to near extinction. The rainbow trouts—and more rarely some other native species—that are seen rarely nowadays reach edible size.

> over there sold them its trees, and that firm brought a sawmill and put people and exploited the forests during those times. They took the timber and later the young trees started growing, it became forested again. … And later, the owner of those other lands sold all *pellines* and *coihues* to Martiní…. That was around '86. And they only left thin trees that didn't have enough wood, they took all the thick ones, and left the hollow ones for seeds.

This was the first time in which clear cuts began to happen at a larger scale, the effects of which are still visible in the slopes surrounding Llancalil and upper Huife. According to some interviewees, the presence of big groups of logging workers had a considerable effect, in particular on the river's fauna, as they fished them at an apparently unprecedented rate. After the original forest fires originated in the settlement period, this moment clearly marked a high point of deforestation in these valleys.

Nevertheless, as Matus observes, now most of the mountain slopes surrounding the valleys are covered in young trees. During the decades following this period, the relative marginalisation of *campesino* production and the transformations in the agricultural sector associated with the deployment of the neoliberal project—ie. the official favouring of a model centred in agroindustrial export production—have led to the intensification of migration to towns by the new generations mentioned previously, who see little future in farming. Of course, this has implied the deintensification of agricultural and cattle production in the territory; one of the consequences of which has been this sustained natural regeneration of forest cover, as seen in the ubiquitous secondary forests, dominated by young *hualle* and *coihue* trees, that have slowly reclaimed the mountain slopes.

Figure 21. Picture taken by the author in upper Huife shows, on the opposite slope, the secondary forests in an area that had been affected by both fire, and later, logging. March 2016.

Figure 22. Border between a patch of young forest, and cattle grazing grounds, with some scattered dried quila bamboo, and blackberry bushes. Taken by the author, March 2016.

Huife and the tourist economy

The overarching tourist economy that defines the Municipality of Pucón constitutes a determinant context for the different livelihood strategies of the community in Huife, the challenges and threats it faces, and the terms in which possible futures are locally envisaged. The aspects of the local economy and territoriality related to this therefore merit separate treatment.

Pucón has been an important node in the national geographies of tourism since very early on, in particular since the construction of the Great Pucón Hotel (*Gran Hotel Pucón*), built in 1934 by the State Railway Company (*Empresa de Ferrocarriles del Estado*), as a part of a general policy of incentivising national travel (Martínez 2014). During the ensuing decades, the place this region would have in national geographical imaginaries would shift from being an 'uncivilised' forest frontier—a place for timber extraction and a transit route to Argentina—to a place characterised by 'pristine' nature, manifested in its fish-filled lakes and its old-growth forests, a 'natural heritage of the nation'. This was a process of ideological integration into a consolidating national geography in which both the establishment of National Parks and the Railway Company's travel publications that circulated in the country's main urban centres would play an important role (Espinosa 2016). Tourism in this stage focused on its lakeside beaches, hot springs, national parks, and sports fishing, and appealed to a relatively elite, mostly national, public. From the 1970s onwards, the opening and/or pavement of new roads made the municipal territory much better connected to the larger regional towns, and also made an increasingly larger portion of its territory accessible (*Ibid*.). This would open the way for an important shift towards mass tourism, especially concentrated in the summer months (ie. January and February). As a consequence, to the use-values and imaginaries that the above mentioned process of integration projected onto the Municipal territory, a great deal of new ones would be progressively added. For instance, during the last decades Pucón has consolidated its place within the global geographies of adventure sports tourism: it hosts an annual triathlon part of the Ironman international circuit, its rivers have become a famous location for white water sports such as rafting and kayak, its adjacent National Parks are a popular trekking destination, and the Villarrica volcano has become one of the important skiing and mountaineering spots in southern Chile. In addition, Pucon has also become an important node of both 'sun and beach' and nightlife-oriented tourism, centred around its lake beaches, casinos, restaurants, bars, etc. More recently, ethnic tourism circuits have also opened, centred around local Mapuche culture, something particularly noticeable in the adjacent Municipality of

Curarrehue[80]. The area has also become a focal point for what has been termed 'alternative' forms of tourism and 'amenity migration', which are expressed in everything from spiritual healing centres, to yoga ashrams, to private conservation projects of a 'deep ecological' orientation (Zunino & Hidalgo 2010). All of this has implied a significant growth[81] and diversification of the tourist and resident population, as both categories have increasingly incorporated a much wider range of regional and national middle classes, and an increasingly important foreign population from Argentina, Europe, and North America, among other places.

In this way, the region's incorporation into the national geography through the cultural imaginaries of the tourist economy has implied the historical territorialisation of a very diverse and contradictory spectrum of values—linked to conservation, new forms of spirituality, leisure, sporting circuits, etc.—that pervade all aspects of the municipal geography, and are closely attached to environmental qualities that the capitalist tourist economy itself, which enabled this process, increasingly tends to erode[82]. This complicated web of values and the contradictory manner in which they unfold through the region's ecology, is a condition with which not only local territorialities have to constantly negotiate, but also one that the company behind the Llancalil project has had to confront, as they constitute one of the main vectors of opposition to the Llancalil project at the Municipal level (see Chapter 7).

These contradictions are locally experienced in many forms. On the one hand, the livelihoods of many local families are heavily reliant, either directly or indirectly, on the tourist economy. This is particularly, though not exclusively, true for the younger families, for whom staying in this region normally entails working on some area related to tourism, either as employed in the service industry in the town of Pucón, or on setting up small-scale enterprises

[80] Curarrehue used to be part of the Municipality of Pucon until 1980, when it was constituted as a distinct *comuna*, or Municipality. While also in the orbit of Pucon's tourism economy, Curarrehue is distinguished by a much greater proportion of rural and Mapuche population. Huife is located very close to the limit between the two Municipalities.

[81] This is illustrated in the fact that between the 1992 and 2002 censuses there was a 47% population growth in the Municipality, from 14,356 to 21,107 inhabitants. In the last 2017 census, the population stood at 28,523.

[82] This contradiction is illustrated by the nearly universal complains one hears from both residents and visitors to Pucon and its surroundings, regarding what were often described as unbearable conditions of overcrowdedness and saturation the Municipal territory faces during the summer season. This was added to comments on rising prices, spatial segregation of the local population in Pucón, water shortages, pollution, and the seemingly out of control dynamics of real estate development, many of which are expressed in the area of study, as I will show below. As an example of what was perceived as a near collapse of normal life during the frantic summer months, during the summer I did my field work, at peak hour what would have been under normal conditions a 25 minute car ride from the place I was staying to the town of Pucon could take nearly 3 to 4 hours—ie. a 15-mile-long traffic jam on a one lane highway. One can only imagine the reaction of those who had come expecting an escape from urban ills.

in rural areas like restaurants, shops with local produce, camping sites, etc. From the perspective of Luis Hernán in lower Huife,

> Pucón is a municipality that depends on tourism. We are all in one way or another related to tourism, be it working for some tourism company, or whether animals sell better due to tourism. So everyone is at least indirectly involved in tourism, it is like the net that drives the system here.

The Liucura valley, and the name of Huife in particular, figures in the Municipal tourism circuit mainly through the several hot springs that dot the sides of the river, most of which have been developed into spa centres, with pools, hotels, and restaurants. The most famous of these is the *Hotel Termas Huife*, located in Lower Huife, on which some of the local people are employed. Around one mile upriver towards upper Huife there is also the somewhat less exclusive *Termas Los Pozones*. Both centres receive a great number of visitors all-year-round, and have given the area a certain notoriety in the Municipal tourist circuit, and beyond. These have come to define the economic context for local families, and, according to Luis, now "much of our subsistence has come to depend on different tourism enterprises, in this case the hot springs. Many of the young families here work in the hot springs, or at least someone [in their family] does".

As Luis Hernán points out, these centres are for some families in the communities a source of employment, and in the case of *Los Pozones*, which is owned by a local family, a main source of income. However, the main local impact of these centres is an indirect one: as they draw people to the locality, they have opened space for local families to sell a range of home made products—jams, pies, eggs, cheese, bread, honey, vegetables—as well as opportunities to offer services such as trekking and horseback tours to the adjacent Huerquehue National Park, both formal and informal camping sites, the rental of cottages and rooms, and access to fishing spots. Nery from lower Huife says that,

> I have a cottage, … and I do my publicity through the internet. I work as well, so most of my income is from tourism really. … The other thing that people do a lot here is selling *kuchen*, homemade bread [pan amasado], and other kinds of homemade products. Pucón is far from here, so people look for these sort of things.

In addition, it was due to the hot spring centres and the tourist traffic that they draw, that the road that traverses the valley was paved a few years ago, all the way up to *Los Pozones*, where the road divides into the two unpaved roads that lead to upper Huife and Llancalil. One consequence of this has been a rise in property prices, with the concomitant pressure to sell plots. This has led to a constant trickle of plots being converted into rural residential properties

and country houses for the urban middle and upper classes, either for direct use, or in some cases for rent. Among other things, this implies a constant negotiation, in many cases friction, between different ways of relating to the landscape; in particular between its use as a space of leisure, and as a space of sustenance. For instance, in a conversation we had on this issue among several neighbours in lower Huife, Guillermina complained about her low-intensity but constant tug-of-war with a neighbour who had bought a plot adjacent to her's, and then built some cabins, which he rents out to tourists during the summer season. As a consequence, she has had to deal with what in her eyes was the utter obliviousness of these tourists, who are in the habit of leaving the fences open on their way to a nice river spot in front of her plot—opportunities of escape her pigs seized upon without fail—and who happily stepped on her growing winter fodder as if it were any sort of weed. "These are people who come once a year, they just set up camp, and that's it". Guillermina's experience was acknowledged with a knowing nod by those present, who then also shared their own similar stories.

While this is something that has been going on for decades, and rarely escalates beyond these sorts of frictions, there has recently been an intensification and upscaling of this process in the lower parts of the valley which threatens to take this to a qualitatively different level: the acquisition and subdivision of formerly large estates throughout the valley by developers, who later sell small plots as rural residential or vacation properties. For many of the people I interviewed, this constituted a worrying tendency. When I did my fieldwork, for instance, there was one such new project in Huepil, a few miles downriver from Huife. This project—rather pompously named "*Altos del Huife*"— was a particularly large and visible one which had subdivided a large estate into a gated community of more than 160 plots, most of which still remained unsold. The plots were at the time being marketed in a glossy office in central Pucón. Projects such as these one have led to a sense of alienation on the part of some of the people I interviewed, in more than one respect. First there tends to be a negative aesthetic judgment, as the project's architecture, density, and organisation of space jarrs with these places' vernacular spatial and aesthetic qualities. Luis Hernán says that, "I see Quetroleufu, I see Huepil, and it's ugly. There are many houses of an urban style. … there is too much population". The disconnection of these developments from the local sense of space and place is further expressed by the way in which the toponym 'Huife' has been appropriated and resignified during the course of this process: from denoting a particular place in the local geographies (which for the inhabitants of Huife is linked to a sense of identity and a history), it has turned into a marketing brand broadly associated with the upper Liucura valley in general, one of the consequences of it being originally integrated into the geography of tourism mainly through the

hot springs centre that bears the name. This has led to the name being used in everything from roadside restaurants on the way to the hot springs, to the aforementioned gated community, which is actually located miles from where Huife even begins. “Huife sells, Huife has become a brand. In Huepil, all new restaurants, all new plot subdivisions, they are calling them ‘Huife’”, says Luis Hernán, to which his sister Nery compounds, “it makes me angry, because they just call it Huife to sell, but people that are [supposedly] coming to ‘Huife’ just stay down over there”. In this way, and in general terms, the tendencies in the valley bear a strong family resemblance to processes of gentrification in cities, in which, through the shifting relations of value and land, communities and their territorialities become fragmented and ultimately displaced, as in this case rural spaces are subsumed under the motley geographies of the middle and upper classes (see Phillips 2004; 1993; 2005; Phillips & Smith 2018).

The broader consequences beyond the gates of these sort of projects, yet to fully unfold, also generate a sense of uncertainty among some of those I spoke with. Fernando Goeppinger, a descendant of German settlers in Llancalil who had recently graduated from university in Temuco, wondered, “those people [the buyers of the plots in the gated community] will need everything… what happens with all [of the trash and waste], where does it go?”. And indeed, one of the reasons words like ‘collapse’ and ‘overflow’ get thrown around frequently in local descriptions of tourism in the municipality, is that there has historically been little integrated planning around projects such as these, so that issues such as water provision, traffic, and waste disposal have tended to be confronted piecemeal once they become a problem.

And nevertheless, the fact that Fernando wondered about this as we talked in front of his roadside stall where he sold local produce to tourists, illustrated the deeply contradictory relation local people and their territorialities have with the tourism economy—a fact that did not escape Fernando. For him, and many of the people I spoke with, tourism simultaneously constituted the terms in which they thought of the conditions of possibility for the future economic viability of their territories, and one of the main vectors of threats they faced. This ambivalence, in my experience, is the defining characteristic of the local relation to the tourism economy.

Regarding these tendencies and contradictions, Adiba Millaqueo—the woman of the Millaqueo family in Lower Huife who at the time was in the process of moving back to the community from Pucón—told me that

> to tell you the truth I don’t like it. There are more people, it is getting too populated. And it is nice to be by oneself. Moreover, they start felling trees, they start constructions. But on

> the other hand, there are more jobs. There are a lot of rich people houses, and people go to clean them up, especially in the summer season.

Her case, however, exemplified the kind of choices that tourism present to the local families. After being tempted for a long while by the rising prices, she had finally decided to keep the land, and indeed moving back to lower Huife with "the plan of exploiting tourism", to which she added, tongue-in-cheek, "why then do they come? If they come to mess with our tranquility, at least I am going to do that". She was planning on building her own cottage to rent out in the summer season, an alternative many in Lower Huife had done, or were planning to. For her, the crucial issue had become how to engage with the tourist economy while retaining control over the land.

Adiba's case was brought up by her cousin Luis Hernán in the above mentioned meeting we had among several neighbours in Lower Huife to talk about the general situation on the locality. For him, the option taken by Adiba constituted the main alternative to what he perceived as an ever-rising tide of real estate speculation that could only culminate in the disintegration of the territory.

> This [the subdivision and selling of plots] was what worried me, but then I started to see that my cousins were wanting to come back, and the vision of my aunts and uncles of saying 'I want to let my sons build something', not to sell, I see that that tendency is taking place, and one can tell. The people have become conscious, the older generations, to say, 'I am not selling, so that [the land] remains with my people'. If one looks around, it is mostly the *fundos* [the larger estates, most of them in the lower parts of the Liucura valley] that are getting subdivided.

Nevertheless, as Luis and everyone else present recognised, by themselves these sorts of individual choices are unlikely to constitute an effective basis for establishing a certain degree of local control over what goes on in the valley. Guillermina, for instance, recognised that many plots have not been sold yet only because the old generation is still living in them, but once they are gone, there is a great likelihood that many of the younger generation will sell, and especially if land prices continue to rise, as they are likely to.

As we were speaking of these issues, Pablo, a Mapuche activist from Pucón friends of the Millaqueo family, arrived at the campsite in which we were meeting, for an unrelated visit. As he sat down and overheard the conversation, he told us of the case of Quetroleufu, a Mapuche area much closer to the town of Pucón, where the situation was "much worse", and that had recently managed to come up with a communaly drafted land-use plan that was at the

time being negotiated with the Municipal government. “This is the only way to control this”, he said, as everyone agreed, “because now Pucón is completely overwhelmed”. This opened a deeper conversation, which touched on what I think are some of the core issues emergent from the virtually complete subordination of the Municipal territories to the capitalist tourist economy. Luis reflected that,

> Here in Pucón tourism was imposed as ‘the thing’, and, of course, I do think tourism is vital for Pucón… but they presented the matter as: the tourist comes, and we have to give everything to the tourist, … let's sell cheaply, let’s work cheaply, so that the next year she/he returns. So a mentality of idolatry of the tourist was created. And the technical talks the Municipality gave encouraged that. And now I realize, as we have collapsed, that once March [the end of summer holiday season] is here, one often hears in [Pucon’s] supermarket ‘thank God these fucking tourists left’ (laughs). It is the collapse.

This expressed the general consensus that was emerging from the conversation: the fact that Pucón’s communities and their territories had to work for the tourist economy, and not the other way around. For Pablo, this was expressed in the political dynamics of the Municipal government he had become acquainted with during his years as a local organiser:

> This has to do with how the authority imposes a form of development, not a development that is defined from the ground up, in which communities define how they are to live and develop. … So then people say, ‘I don’t want this job, the pay is bad, they intervene the forests, they intervene the rivers, one cannot go to Pucón as one used to’. … because of that form of development, the great investors come to invest, and the only thing one can do is to give labour, and some services. But one doesn’t have the possibility of developing and establishing some enterprise. Because nowadays in Pucón … local people have no possibility of competing, because the big ones come from Santiago with huge amounts of money, huge businesses, and locally one doesn’t stand a chance. That is closed. Local people have no possibilities beyond being a worker.

As the conversation drew to a close, there was a shared sense of how tourism had become a sort of unfettered beast that threatened to destroy not only the very socio-ecological conditions upon which it was premised, but with it rural territorialities and their future viability. The increasingly large investments being constantly poured into the Municipal territory translated not only into pressures upon local control over land, but also into an extremely uneven playing field in which the local population could scarcely find any place other than being a reserve of cheap labour power. In other words, from the point of view of rural territorialities, tourism and its contradictions were developing through a process of relentless proletarianisation of rural

communities, the flipside of which was the process of rural gentrification, as the Municipal territory became subsumed under the demands of mass tourism.

Nevertheless, this local consensus on the worrying tendencies of the tourist economy generally appears in tension with the also generalised, but normally unspecified, hope in the possibility of a different way in which tourism could respond to the needs of the local communities and not the other way around; a possibility that was glimpsed in several local initiatives, all albeit still small-scale and somewhat incipient. A possibility also constantly highlighted by the interest of tourists from all around the world in these lands, which for many of the people I spoke with is a direct expression of their territories' 'natural wealth', of the fact that the rivers run clean, native forests still stand, and tranquility is still found. Locally managed, tourism was generally considered to constitute a possibility of permanence of local communities, their livelihoods, and their links to these lands, ie. their territories. And crucially, it was this, the potential rather than the actual aspects entailed by the enrollment of their territories in the geographies of tourism, that underpinned much of the local resistance to the projected hydropower plant (see Chapter 7). In other words, the resistance to the intervention of hydropower was not, at least not only, about preservation of their current situation—which, as we saw, was locally perceived as entirely problematic—but of the possibilities that this situation still was locally regarded to hold. Take for example what Osvaldo told me, at his 83 years of age, of what he saw as the main avenue for the future of his community in lower Huife,

> Here there is a lot to exploit regarding tourism. Because people here, there are many who have a beautiful section of the river and can do what we have here [the Araucaria camping site]. And others are starting to do it, and have a little extra income. … But there are many that have a place at least for them to go and have some *mate* by the river, in a beautiful place. And people [tourists] value what we have, and they are opposed to the hydropower plants. … I think that we need to exploit tourism in what we have. Because here we have 90 hectares in total, and those can be explored with treks, paths, there's native forests. … To do walks, horseback rides — I dream of making a *canoga* shed up over there, with a trek, to take the tourists and tell them how houses used to be here.

It is important to note, with Osvaldo, that this alternative form of engaging with tourism is not entirely confined to potentiality, but it is already glimpsed in a lot of instances, some of which were notable in the degree of collective organisation they involved. Perhaps the most economically important local initiative is the *Los Pozones* hot springs centre, which is managed by a local family and has grown considerably over the years. However, this, like other individual initiatives already mentioned—ie. the building of cottages for rent, and the small-scale sale of

traditional products, or the organisation of occasional treks—, normally do not transcend the household in its scale of organisation. There was, for instance, the case of the Cariman Sanchez community in their relatively recently acquired lands in Llancalil. As explained in the Introduction, these lands were acquired for the community by the CONADI, as a way of resolving a conflict over land restitution in another part of the region. For the persons from this community with whom I talked, one of the main value of these lands resides in their perceived potential to develop a communally managed tourism project. During the time I was in the field, members of this community routinely visited their lands in Llancalil exploring potential trekking routes, and were in the process of building 3 cottages with the idea of some day receiving tourists.

Another interesting instance is that of the *Araucaria* camping site of the Millaqueo family, notable in the way it has also been an instance in which the community has experimented with alternative forms of organisation, such as setting up a cooperative. For members of the cooperative, this project significance goes beyond the economic, but reaches into the socio-political, as, in the words of a member, it "has built a certain degree of autonomy", which he understood as collective capacities for action beyond simply dealing with the state, as most local organisations are limited to.

Figure 23. The Araucaria camping site in lower Huife. The Liucura River runs to the left of this picture. Taken by the author, March 2016.

In sum, the enrolment of these territorialities in the global geographies of tourism has unleashed a fraught and markedly ambivalent process, in which rural territories both are swooped up in the vortex of land speculation and gentrification tendencies implicated in the dynamics of real estate, and at the same time have acquired new use values which for local people open the possibility of finding a new place for rural territories in an otherwise hostile world. The hope, sketched in local aspirations, of a tourist economy tethered to the class interests of rural communities, if entirely within the realm of possibility, remains remote in the context of the balances of power that shape Municipal politics in Pucón.

Being Mapuche in Huife

One of the most visible dimensions of the conflict introduced by the Llancalil hydropower project has been the way in which it has foregrounded the shifting meanings and value of the notion of 'being Mapuche', a condition shared especially among the families in lower Huife. On the one hand, the emphasis that in the course of local resistance to the hydropower project has been placed on the ways local territorialities are linked to indigenous identity has opened new political dimensions, as it places the communities and their struggles squarely in an evolving geography of resistance rooted in the historical specificity of the Mapuche people—one undergoing a long process of recomposition through the struggles that have taken place in region during the neoliberal period (Pairicán 2013). But, perhaps more significantly, this emphasis also operates as a remodulation of the community's relation to its own history, as it revitalises fragments of meaning latent within the Mapuche families' memory, frames of reference from which the past is resignified and reconnected in new ways to the present historical context these families navigate.

The meaning and value of ethnic difference, and the ways it intersects with economic stratification, has gone through important transformations across the generations that have passed since these lands first became settled. As I explained with more detail in the previous chapter, for the generation that first came to these lands, being Mapuche implied a wide range of hardships associated with the process of dispossession and racialised subordination through which the Chilean state was integrating the conquered peoples of the Wallmapu. Locally, the fact that the first generation did not speak Spanish is remembered as a source of systematic discrimination. In the context of the chaotic process that shaped the local agrarian structure—in particular the way it was consolidated through a state apparatus both culturally and

geographically remote—this language barrier implied an immensely costly structural marginalisation. This marginalisation made Mapuche families subject to all sorts of arbitrariness from both the state and the non-mapuche population, as shown in the previous chapter. In addition, and in contrast to other parts of the region, these first families were relatively isolated from other Mapuche families. If in other places in the *cordillera* several Mapuche families had the opportunity to band together, claim recognition as a community by the state, and carve out a common social space in which their language, cosmology, and ritual practices could be transmitted and reproduced, in Huife the relative isolation of the Mapuche placed a huge amount of pressure on several crucial aspects of their cultural heritage and identity. For example, one of the direct consequences of this situation was the reluctance that the second generation—ie. those that had come of age in this context, and very directly felt the systematic stigmatisation of Mapuche culture—had of teaching their language, *mapuzungun*, to their young. Today, only the two or three surviving members of this generation know the language, and everyone from the third generation onwards has only very rudimentary knowledge of it. As Luis Hernán explains,

> Here my grandparents didn't teach *mapuzungun* to my mother and my uncles/aunts, because they had been discriminated. … so they said that it was so that they didn't suffer, that [was the reason] they didn't teach them *mapuzungun*.

This is a story that was repeated with varying intensities throughout the country during the twentieth century, as the descendants of the conquered Mapuche were faced with the colonial stigmatisation of their culture, and the necessity of some way or another integrating themselves to a fiercely racist national society (Antimil 2016).

Yet, according to the current members of the community, the first generation of these Mapuche families did try to sustain links with other communities in the area, which opened some space to resist isolation and sustain a relation with the fundamental elements of the Mapuche cosmos. Luis says that,

> It was quite different here [from other Mapuche areas] because we didn't come here to live as community, we came to live as family. So the Mapuche, in order to be part, as they had that community root, the families went to Quetroleufu[83], as the Millaqueo were relatives of the Millahual [who live in Quetroleufu], for the *nguillatun*, and all that.

[83] Place located near Pucón, where there is a larger Mapuche community.

Older members of the community recall that once there even was a *nguillatun*[84] celebrated in Lower Huife, which was led and organised by Antonia Quintrequeo, who was a *machi*[85]. This was a very important event, as the organisation of a *nguillatun* implies the establishment of a *rewe*, in the multiple senses of the word: a ceremonial place, an altar, and a ritual congregation. This ritual, which thanks and calls upon *Ngenechen*/God for providence, thus implied the renewal and reaffirmation of the families' bonds not only with the constitutive powers of the Mapuche cosmos, but also with relations of kinship that expanded throughout the region. Indeed, this event reportedly also articulated in interesting ways with the interethnic context in which these families were living. Feliciano Millaqueo recalls that,

> [It was] In the old days, I was perhaps 8 years old, and am now 83. I was young but I remember. My grandmother, Antonia Quintrequeo, she invited Mapuche people from Quetroleufu, from Curarrehue, from Villarrica, and from where they were originally from, Imperial. A lot of people came and gathered there on front of [where] the bridge [is now]. … there was a lovely meadow there. My uncle and my father made the cross, the *rehue*, and there they did the *nguillatun*. … There was a very big drought by then, very big, people were desperate, there was no water, for animals, there was no fodder, no nothing. Even a *gringo* [German settler] came, who's name was Goldammer … he came to talk with the old man, that he should do a *nguillatun*. He had faith in the indians, that *gringo*. He came to speak with him, and my father-in-law thought well of him. He went out on horseback to consult with the other people, the *longkos*[86] over there, in Quetroleufu, Villarrica, Imperial, Menetué. From there the family on the part of the grandparents came. To ask for water so that it rains, so that the pastures can recover for the animals. They did that *nguillatun*, they cooperated with a hundredweight of flour, toasted flour, mate, sugar, fat, to do *sopaipilla*[87], meat, a calf, a horse, the rich cooperated, the Monroy, the Goldammer, the Matus, those were the rich back then. They all cooperated, and they did *nguillatun*, they butchered the horse, … the mutton, the beef. They prayed so that it would rain. And they went on horse to the river. They got into the river on horse, and they did their prayers there. That it rained, that it rained. … So, a night passed, and the next day clouds started gathering, and the wind blew, and after midday it rained, it poured. Around here the *wingkas* laughed, 'look they are going to ask for water' they said. When it did rain, they didn't know where to hide

[84] The *nguillatun* is a fertility ritual, the most important and large collective event that Mapuche communities hold (Course 2011).
[85] The *machi* plays one of the fundamental social roles in traditional Mapuche society, she is the link between the spirit/divine world, and the human world. She normally acts as both healer and ceremonial leader. See Bacigalupo 2007 for a detailed ethnographic account.
[86] Mapuche chief, or leader.
[87] Deep-fried bread.

> (laughs). They all got soaked. … Afterwards they didn't do more, because the old ones were too old, and the youth didn't go along.

As this testimony shows, the first generation was still firmly inhabiting a Mapuche cosmos, the conditions of reproduction of which had nevertheless been severely fragmented by the preceding decades of occupation and refuge. The geographical dispersion of the relations that made the sustainment and reproduction of these relations to the cosmos possible—in addition to the stigma they carried in the imaginaries of the national society they were now a part of—would eventually make the transmission and reproduction of these by the next generations impossible.

Nevertheless, as is made clear by Feliciano's testimony—in which the non-Mapuche figure as instigators, participants, and ridiculers—the interethnic relations that were developing locally at the time were far from being monolithically mediated by stigma. Indeed, in Huife the process of acculturation suffered by the Mapuche families was far from a linear one in which Mapuche culture became stigmatised and then simply lost. On the contrary, this was a process that became ever more complicated as its direct effect was the increasing permeability of the very ethnic barriers and hierarchy on which it was premised. As some of the most conspicuous cultural elements—like traditional authorities, language, and ritual—were lost, others became part of a common cultural ground, like, for example, the seasonal harvest of *piñones* and other forest products, the ecological knowledge of native forests and the medicinal usage of different species, and even the adoption and reproduction by Chilean *campesinos* of the, perhaps constitutively ambiguous, belief in supernatural non-human creatures inhabiting these valleys[88]. As Luis Hernán explains,

> Everything became mixed, as there are many non-mapuche families… The first thing is that everyone is related, there are no Chilean families that don't have either a nephew, uncle, cousin, son-in-law, daughter-in-law, or someone who is Mapuche. … The way of life is the same, the very German settlers gather *piñones*, it is the custom here, is what this land gives. … The way of life and the food is the same, the gathering, etc.

[88] In these valleys stories about the *chimallenes*, or *chumalguenes*, are relatively common, and I have encountered different versions of them before and during my fieldwork, in both Huife and Pichares. These are beings associated to witchcraft, that can appear in the night as little furry men or children, or flying lights. They give wails that, according to one Chilean woman who adamantly assured me she had heard them, sound like something between a goat and a small baby. In one account from a chilean *campesino*, they are inherited by certain Mapuche families, and they are both a curse and a source of power; while they can do their master's bidding (for example looking after cattle), they also demand great sacrifices, as they live on (purportedly human) blood, and milk. One of the interesting things about the stories I heard was that they often took place in the context of fraught interethnic relations.

As shown in the previous chapter, ethnic difference intersected with economic stratification by the way it mediated the relation with the state during the settlement period. According to many of the people I spoke with, the most significant lines of difference would tend to be the economic ones (signalled by status symbols such as house build, land, cattle, etc.) which although always retaining an ethnic inflection, in time could decouple to varying degrees from ethnicity. In this sense, Luis Hernán, speaking of the German families and how they got a better start, says that, nevertheless,

> as the children were raised in the environment of this area, and they went out to drink together [with everyone else], they ended up just as poor as everyone else (laughs). Today most of the German settlers are the same as everyone else. Some may have more, some less, but one cannot say they have a lot of money, they ended up the same as everyone else.

As the different groups intermarried, children grew up together and went to the same small rural schools, the identities of ensuing generations were thus progressively forged through the navigation of a complicated and shifting cultural terrain in which markers of ethnic difference, such as surnames, persisted, even as they diffused across families of widely different origins. This is very clearly illustrated by the composition of the Millaqueo family themselves. The president of the indigenous community, Luis Hernán, is son of the marriage between Osvaldo Ibarra, a Chilean settler of the second generation, and Malvina Millaqueo, a Mapuche woman. Luis Hernán is in turn married to Denisse Albornoz Goldammer, who grew up on the nearby locality of Coilaco and is of both Chilean and German descent. As mentioned in the previous chapter, in some of our conversations she was adamant in stressing that she "feels Mapuche", as she has "lived in the *cordillera*" all her life. In this case, her willingness to identify as Mapuche points to how the relations of value (and stigma) attached to ethnic markers have shifted in very important ways with each passing generation and the different historical contexts these face[89].

The reasons behind this revalorisation of Mapuche identity are very complex, as they emerge from a dialectic that plays out at a national scale, involving both the political recomposition of the multi-generational struggle of the descendents of those who suffered the occupation and destruction of their territories and ways of life by the Chilean state, and the changing ways in which the neoliberal incarnation of this state and the international order in which it operates interpellates and attempts to govern its subjects (Leve 2011). When I asked

[89] This was also the case with Osvaldo, who in the meeting with company and government representatives referenced his Mapuche relations as part of the historical value of the territory he was defending. See Chapter 7.

Luis about the reasons of why people are more interested now in recovering their Mapuche identity, after pondering for a moment, he told me that

> The one who is Mapuche never ceases to be, you always feel it. Blood is too strong, it pulls. But there are some who feel this, and still renege it, which I think is wrong. And for another big portion, [the fact that] now the state gives you a benefit, … something falls to you here and there, and that made certain people want to be Mapuche again. …

In this sense, again, the relation to the state apparatus and its shifting ideological modes of interpellation[90] (Althusser 2006) have played an important role, as people use the spaces and terms opened by the official shift towards multiculturalism (Boccara & Bolados 2010) that has characterised official policy in post-dictatorial Chile to negotiate their positions in the neoliberal order. This is more clearly reflected, for instance, in the constitution of the Millaqueo Millahual indigenous community in 2001. Luis Hernán explains that

> There was a time of the 'boom' of indigenous communities… it was like a necessity, the law 19,253 of the CONADI began to be known, so the indigenous scholarships started, so we started to organise the community. … As a community we can find funds, we could have projects, and stuff like that, which hasn't happened much, as the CONADI has less and less money. What has been beneficial has been for example the bridge, and the other works in the river, which we negotiated as the indigenous community. … So in that sense it has been good. Also, regarding the hydropower plant, opposing as an indigenous community is better.

As with many other instances of collective organisation in the area in general, the collective figure of the indigenous community has served primarily as a new interphase with the state, one that allows for better terms of negotiation of, in this case, the families' access to public resources and infrastructure projects.

It would be, however, a mistake to reduce the local resurgence of Mapuche identity and the revaluation of it to a unidirectional effect of the state's strategies of what Boccara and Bolados (2010) have called ethnogovernmentality. Rather, at a national level this official strategy of recognition is aimed at governing more effectively over a problematic that has persisted despite and across generations of assimilationist policies[91]. This is, ultimately, the historical

[90] Interpellation refers here to a political and ideological process of subject formation; how a 'subject' comes to be through the multiple ways in which they are recognized, 'hailed', by the particular configuration of power they are part of. See Althusser 2006.

[91] The most radical instance of this approach was that of the Pinochet dictatorship, in which any legal recognition of the ethnic specificity of the Mapuche people was rescinded, in line with the social ontology

problematic that emerged from the disruption of the relative equilibrium that had been achieved during the colonial period between the Mapuche region and the colonial (and later Chilean) state, which culminated in the military occupation in the late nineteenth century: that of the conditions for the reproduction of the specific horizon of meaning that constitutes the Mapuche condition—the values and relations it entails, in particular its complex relations to the land and its potencies; all of which ultimately converge on the material question of land and the political question of territory—, in a world subsumed under the imperatives of capital accumulation and its articulation under the cultural rubric of the colonial supremacy of the Chilean nation. Under neoliberal multiculturalism, Mapuche culture is conferred space and recognition only insofar as it does not challenge this supremacy; ie. multiculturalism offers the chance of *participation* in a hegemonic project and value regime, the definition of which is out of the purview of interethnic dialogue (see Chapter 3 and 7). Being Mapuche is allowed, encouraged even, insofar as this identity is practiced in a subsumed, 'productive', form; notions of acceptable difference that are expressed in the state's folklorization and appropriation of cultural elements as elements of official ideology, its encouragement of ethnic entrepreneurialism, its definition of legitimate interlocutors, etc. This situation of structural subordination is consequently expressed in the symptomatically *dual form* in which state power operates in relation to the problematic posed by Mapuche specificity: the ethnobureaucratic field of multicultural integration, and its repressive flipside. For Boccara and Bolados (2010:685, my translation),

> In addition to contributing to the formation of differentiated representations of the indigenous (of the good indian or the allowed indian versus the antisocial terrorist indian), these logics of power participate in the constitution of differentiated territorialities within which specific legal and institutional frameworks operate. Because in concomitance with the formation of the ethnobureaucratic field, there is the tendency to produce a territory ripped from the pacified and civilised space of the nation: the territory of subversion, or rebellion, of delinquency in which mechanisms of production of alterity and of exercise repressive power analogous to those of the colonial period are perpetuated.

This constitutive tension implied in the Mapuche condition under neoliberal multiculturalism, is expressed in the political experiences that this identity has entailed for Luis Hernán and his family. Far from simply containing and governing difference—ie. of enrolling these families in the geographies and terms of multicultural governance—the rediscovery of Mapuche identity

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that underpinned the regime's official ideology; ie. the idea of *homo economicus*, for which cultural specificity held little to no consequence.

has also placed these families in the complex geographies of the ongoing recomposition of the struggles of the Mapuche people, and the wide range of political orientations these take. This has led, for Luis and his family, to an ongoing reflection and problematization of their relation to the state, and of the specific conditions of the Mapuche within their Municipality. As Luis explained,

> In territories like this we have another vision than in territories who had more community, so to speak. … where this didn't happen, where there are Chilean settlers, German, Mapuche, because here in Pucón we are that, most of us are settlers, and there's everything. … That is why here there's a vision, a difficult one, because to the Mapuche here it happens that, sometimes there's very little vision of her/his ethnicity. We realised this ourselves because we went to a meeting [of Mapuche organisations] in Temuco and when one gave one's opinion or spoke something the others scowled at us [*nos miraban feo]*. So there is a tendency going on, there are Mapuche with more committed ideas. The communities that have strong links to their territory have the dream of being autonomous from the Chilean state, they want a Mapuche nation. … here we [the Mapuche in Pucón] are in a different situation, we are more docile, which is not a good thing. Because the communities of Pucón… autonomy we have never had. They depend too much on the *muni* [Municipal government], so, if the *muni* doesn't call for the meeting, or if the *muni* does not organise the *wetripantu*[92] celebrations, the communities would not gather. … So in the defense of the territory, the Mapuche people in Pucón are weak, these are the weaknesses.

In this way, the generational shifts in the value of Mapuche identity has not only involved the community's participation in the state's ethnobureaucratic field, but has also opened up a process of political reflection in which the relation to the state is problematised, and terms like 'autonomy' and 'territory' become slowly incorporated into local discourse and mobilised in making sense of the local experience. In short, the way in which the condition of indigeneity mediates the relation to the state is a deeply ambivalent one: through it novel forms of power are exercised, while at the same time it introduces a frame of reference through which the relation to the state is critically reflected upon, existing forms of power questioned, and new forms of interpretation of the community's problems and struggles are made possible.

In this sense, it is important here to note that the significance of this foregrounding of the Mapuche element in the complex identities of these families far exceeds the relations of the communities to the state; it also implies a remodulation—a shift in emphasis and meaning—of

[92] Mapuche celebration of the return of the sun, commonly called the Mapuche 'new year', celebrated during June, during the southern winter solstice.

the relationship to their memory, to a particular collective historical experience. This is to say, the foregrounding of indigeneity has implied a shift in the frames of meaning through which the fragments of local memory are recuperated to navigate the present, a shift that has a direct impact on the meanings and values that the territory holds for those inhabiting it. The relation to the collective historical experience implied in the Mapuche condition thus acts as one of the crucial relations through which people make sense of current transformations and struggles, a background against which transformations such as the projected hydropower plant acquires its local significance. For example, it was significant that in my discussions with older members of the Mapuche community around the historical origins of the territory, the parallel was frequently drawn between the dispossession of their forebears' lands that originally brought them to the *cordillera*, and the current threats to the river by the hydropower project, in particular the illegitimate acquisition of water rights by the company (see Chapter 6). Another example is the way in which the very process of struggle against the hydropower project has stoked the interest of the younger generations in this history. Luis Hernán, for instance, told me that he had only become aware of the fact that a *nguillatun* had been held in the meadow that separated his house from the Liucura river through the conversations that had taken place within the family as a consequence of the project and the first studies the company had done in the community. When I told him that in the conversations with the community elders I had heard that this "*had* been ceremonial grounds", he corrected me, telling me that he understood that "ceremonial territory was, and will always be, that's the Mapuche conception". The sacredness that this history uncovered was not dependent on his awareness of it, but for him it was something that once acquired, remained as an attribute of the place, and that he had only discovered through a reconnection with his family's memory.

In this sense, the exploration of the history of Luis' family that the struggle against the hydropower project had compelled was the rediscovery and resurfacing of hitherto unacknowledged dimensions of his own lands; fragments of meaning that interweaved seamlessly with the recomposition of intergenerational relations through the exploration of the symbolic depth of a territory that far from being clearly defined in the minds of those who defended it, remained constitutively open, and in many ways mysterious. This, of course, only compounded the value that for him these lands had, values that the hydropower project threatened and ignored.

In this sense, this process opened for the younger generation the question of the possibility of recovering the ceremonial site. When I spoke to Luis in 2016, he had already talked

about it with Francisco, who at over 100 years of age was the oldest member of the community and had taken part in the *nguillatun* as a teenager, to see if they could perhaps organise another one. He told me that Francisco told him that yes, provided one would organise the family's Mapuche relations, ie. build a congregation that would gather here once more. This further illustrates how this reconnection with Mapuche identity opens up the possibilities of reinserting these families in relations and geographies which would necessarily entail important transformations in local territoriality, in the practices and meanings that constitute these lands. The idea of recovering the ceremonial grounds still lingered in Luis' mind the last time we spoke in 2018.

In this way, in the case of Lower Huife, this process of foregrounding of the Mapuche elements of identity has been a crucial aspect in the way opposition to the hydropower project has been articulated, and one of the main sources of the 'counter-values' mobilised against it[93]. Furthermore, as it will be explored with more details in this study's conclusions, it has opened a broader geography of solidarity and resistance in which alliances are established on the grounds of how these cultural and historical elements are mobilised on a broader scale.

Conclusion

This chapter has approached several of the different social, historical, and geographical relations through which the values that mediate the community's relation to its territory emerge. These are those entailed by the geographies of semi-proletarianisation and rural production through which the community is reproduced, those of the contradictory relation of the tourist economy, and those entailed by the condition of indigeneity. These are all dimensions that exist in constant relation (and sometimes tension) to the historical web of intergenerational relations explored in the previous chapter. I will now turn to the issue of water more specifically, and to how these relations converge on the hydrosocial articulation of a moral economy that, in the context of the process of enclosure and commodification of the waterscape that has enabled the possibility of hydropower development, has become one of the main sources of local opposition to the energy frontier.

[93] This will be further exemplified in Chapter 7, in which I analyse a meeting that the community held with the company and government representatives.

6. Commodification and the moral economy of water in Huife

> In Chile, there had to be, so to speak, a complete sweep within all the sectors of the economy to remove the statist weeds. That was what gave the Chilean economic revolution so much significance, range, and depth.
>
> Hernán Büchi, Chile's Minister of Finance under Pinochet (1985 – 1989), *La Transformación Económica de Chile*

> [W]e've been seeing in the news that waters now belong to the state, we need to regularise them, otherwise anyone can take them, and then sell them back to you … That was not known before.
>
> Félix Salazar, in upper Huife, 2016.

Looking at the Liucura river as it peacefully flowed by the Ibarra Millaqueo family's camping site in the late summer months of 2016 in lower Huife, it was hard to imagine that the stories that I had just been hearing about how people barely managed to cross the river by felling big *coihue* trunks took place on the same river. The green and yellow stones in the riverbed could be clearly seen under the receding afternoon sun: one could easily cross the river walking and get away with nothing more than a wet pair of trousers. As everyone here recognizes, the rivers have indeed changed a lot with the years, changes that perhaps provide a particularly visible index for the broader transformations people have experienced within their communities.

In fact, changes in the waterscapes of these valleys feature prominently in local accounts of historical change. The ways in which water flows in these valleys is tightly implicated in a thick web of histories, relations, meanings, and values. These symbolic and practical meditations are what define this small portion of a hydrosocial cycle (Linton & Budds 2014; Swyngedouw 2015) that flows through different scales, connecting these valleys to the region, the national economy, and beyond.

In this chapter I will delve deeper into the hydrosocial relations that have developed in these valleys, and the way these interact with the process of commodification and enclosure of the waterscape that constitute the political-ecological conditions of possibility for the new

geographies of energy in Chile. In particular, I will look at the way in which the waterscape figures in local production of intergenerational ecological knowledge, and how it is integrated into a local *moral economy* (Thompson 1971, see Chapter 2) through which the 'social' commons I have described in previous chapters are reproduced. From this basis I will also approach the literature on the Chilean Water Code—a juridical regime (in)famous for its paradigmatically orthodox neoliberalism—and see how a focus on the moral economy of water might shed a different light on the relations between nature, markets, the state and its bureaucratic apparatus, which in this literature too often remains confined within the liberal opposition of the market and the state that underpinned the Code's original design.

The neoliberalisation of Chile's waters

Chile's 1981 Water Code is widely recognized as the textbook example of the commodification of water rights, notable for both its precociousness and ideological zeal. During its now almost four decades of existence—during which it has only been reformed at the margins—, the notoriously orthodox neoliberalism of the Water Code has positioned it as a paradigmatic point of reference for international debates around water politics and policy across the political spectrum (see Dourojeanni & Jouravlev 1999; Bauer 2005). Especially during the early 1990s, the code was hailed in various World Bank reports as a model to be followed by other countries (e.g. Thobani 1995), and by myriad intellectuals on the right as an example of the creative application of free-market rationalization to inefficient and ossified forms of 'statist' natural resource management (eg. Büchi 1993). The Chilean Water Code was to become something of a poster child for 'market-based' natural resource management, a legal framework that resonated powerfully on an international stage hegemonised by the neoliberal triumphalism that followed the end of the Cold War. For many in the multilateral institutions that at that time were busily overseeing the global consolidation of market rule, it showed the path forward (Briscoe 1996).

However, by the late nineties, it became evident that the model was failing to deliver in several fronts on its own terms; in particular, many noted markets in water rights had been notoriously inactive, monopoly and speculation, particularly acute in non-consumptive rights, had been widespread, and public institutions had no effective means to mediate and process conflicts or plan river-basin management in any meaningful way (see Chapter 3; Bauer 2004; Dourojeanni & Jouravlev 1999). For the left field of these debates, the Chilean case has provided

a sort of textbook example of the 'neoliberalization of nature', as an extreme case of an unbridled market rationality bent on colonizing every aspect of the conditions of life, including the most basic of the ecological plots underlying its reproduction: the water cycle (eg. Mundaca 2014; Larraín 2010).

Being as it is a paradigmatic example, the Water Code has received considerable attention from a wide range of disciplines, generally focusing on its economic, institutional, and legal aspects. As we saw in Chapter 3, less frequent have been analyses that focus on the role this legal artefact played in the broader, refoundational, transformations in the nature of power in Chilean society (e.g. Budds 2013). Neoliberalisation implicated a thorough transformation of all aspects of the social order, transformations that cannot be understood without the radical reconfiguration of its metabolic base, its hydrosocial cycle. The Water Code was a crucial cornerstone of this process, one that allowed for the operation of the law of value within the hydrosocial cycle in new and unprecedented ways. In the case explored here, it represents one of the main political-ecological conditions of possibility for the deployment of the new energy geographies now expanding upon the southern Andean foothills.

For the most part, however, much of these discussions have remain burdened by the terms and metaphors through which those that designed the Water Code understood the nature of the transformations effected. As illustrated by this chapter's epigraph, for the Chicago Boys the Code was to finally get the state's distorting hands off water management, and deliver this to the unadulterated rational magic of the market. But, even when this market is critically analysed, and revealed to be far from rational, to be monopolistic, and/or ultimately underpinning class power, the idea that the Water Code was basically about the *undermining* of the state's capacities to regulate and intervene in the hydrosocial cycle normally remains as a persistent common ground.

I would argue that this conception—ultimately rooted in the a liberal social ontology that posits the state and the market as clearly separate and distinct social realms—obfuscates the ways in which commodification and the constitution of markets not only has not undermined the capitalist state's hydrosocial power, but actually underpinned an unprecedented extension of its reach over the peripheral territories and geographies in which the energy frontier is currently operating. This is what makes it a variation, rather than an overcoming, of what in Chapter 3 I called the 'Wittfogelian problematic' of the relation between the constitution of political power and water.

In this sense, even in those approaches that attempt to more explicitly politicise that which neoclassical approaches consider the 'apolitical' realm of market transactions by, for instance, analysing their institutional context (eg. Prieto & Bauer 2012; Bauer 2009; Bauer 2015), little attention is placed on the relation between commodification—primitive accumulation—and the social constitution of the 'political' and the 'economic' as distinct spheres, a cleavage that constitutes the basis of the capitalist form-determination of social reproduction. This is a process that both shapes and is shaped through transformations in socio-ecologies in general, and hydrosocial relations in particular. In other words, even though the political and the economic are recognised to necessarily influence each other, their separation is however taken for granted as an ontological *apriori*. As a consequence, their relation cannot be but external: a *political economy* of water is conceived—which is supposed to surpass the 'apolitical' economics of the neoclassical economists—but not a *critique* of both *the 'political' and the 'economic' as particular forms of (hydro)social relations*, a dual reification immanent to capitalist relations of production (see Holloway & Picciotto 1977; Bonefeld 2014; Clarke 1991). For neoliberalism, seen as a mode of political practice, "not only does the free market require the strong, market-facilitating state, but it is also dependent on the state as the coercive force of that freedom" (Bonefeld 2010:17).

In fact, and as I will show below, these are the terms in which the struggles against commodification are waged at the energy frontier. In this chapter I will examine how the imposition of the commodity-form upon the waterscape is experienced from the point of view of the vernacular hydrosocial relations that have historically developed in Huife, which articulate what I will refer to as a 'moral economy' (see Chapter 2), in which the waterscape is embedded, and constitutes the arena in which the process of primitive accumulation that presently enables the energy frontier acts upon. These experiences might help shed some light on the prevailing metaphors used to understand the nature of the neoliberal state.

The 1981 Water Code

The Chilean process of neoliberalisation is notable, among other things, for it refoundational character, which was only made possible by the fiercely authoritarian political conditions that surrounded its deployment. As I explained in Chapter 3, this process has to be understood as the way in which the Chilean ruling classes managed to resolve in their favour the crisis brought about by the events during the Unidad Popular government (1970 – 1973), one that did not

resort to the simple reinstitution of the previous order—characterised by a nationalistic and state-led form of capitalism which many on the right, particularly the new neoliberal wing, thought had led to the crisis in the first place (Gárate 2012)—but radically transformed Chilean society to its foundations. The process of neoliberalization was one that profoundly reconfigured the patterns of accumulation, intensifying the imperatives of the world market on the country's landscapes through the expansion of natural resource extraction industries—mining, forestry, fisheries, export agriculture—, which were consolidated as the metabolic basis of a new social order. Due to the nature of these industries, control over the hydrosocial cycle is at the centre of neoliberalism as an ecological project, control juridically articulated through the 1981 Water Code.

This code was part of a broader process of institutionalisation of the Pinochet military regime in the early eighties, one that encompassed all aspects of the institutional apparatus, from the Constitution upwards. Nominally, the code establishes that water is public property to which the state grants private rights of use. These rights are, however, a form of private property separate from land, which can be freely bought and sold, transferred, or mortgaged, and that is zealously protected by the constitution (Bauer 1998; Budds 2004). Bauer (1998:35) points out that this dichotomy of water itself being an inalienable public good, while the right to use it a private commodity, has been considered by several observers as juridically incoherent. This discrepancy however can be seen as necessary for the establishment of a market in water. As Karen Bakker (Bakker 2003) has noted, water's physical characteristics make it a particularly 'uncooperative commodity': water must, to a degree, be decoupled from its immediate physical characteristics if it is to assume a commodity form[94]. The code therefore established water-as-element to be a public good, while the right to use it was established as a tradable commodity. In practice however, given the very strong protection of private property rights enshrined in the 1980 Constitution, the former aspect was rendered largely inconsequential.

Water rights are granted by the General Water Directorate (Dirección General de Aguas, DGA), but once constituted, these are subjected to the general system of real estate registration, and to civil (private), as opposed to administrative (public), law (Bauer 1998). Public agencies have thus no role in water management, nor the solution of potential conflicts; these are either resolved through civil courts, or through private bargain. The General Water Directorate (DGA) is required to grant rights if there is any water available, and to do so free of charge. Once rights

[94] Recall here the discussion on the abstract and the concrete in the production of nature developed in Chapter 2.

are allocated, any further transfer must take place through the water market (Prieto & Bauer 2012). Given that water management is considered to be the exclusive remit of the private owners of rights of use, the DGA cannot establish priorities on how water should be used; this is, in theory, left to the market to decide.

There was, however, one key distinction within the code—briefly touched upon in Chapter 3—that crucially determined the functioning of said markets, how water was to be used and allocated in the following decades, and the sort of conflicts and tensions that would develop. The code distinguishes two kinds of water rights: consumptive and non-consumptive. The former refers to activities such as irrigation, mining, or urban use, which imply that the water is consumed, while the latter refers to uses that allow for water to be returned to its original stream. Although not explicitly mentioned in the water code, the creation of non-consumptive rights was evidently aimed at encouraging hydroelectric development in the headwaters of river basins without contradicting irrigation rights downstream (Bauer 2009; Prieto & Bauer 2012). According to Prieto and Bauer (2012), several issues evidence the institutional preference for hydroelectricity: the code only recognizes as uses warranting rights those that extract or capture water at some point from the stream (any application must specify a point of extraction, and release, in the case of non-consumptive rights), which in general excluded all non-extractive and/or in-stream uses, such as fishing, recreational or cultural use, etc., from applying for the original free acquisition of state-granted rights. Furthermore, in the original code, applicants had no obligation of using their acquired rights, nor were they required to pay any sort of tax for them. This allowed for widespread speculation in water rights, which was one of the reasons that led to the partial reform of the code in 2005 (after thirteen years in discussion), which introduced a new tax for non-usage. One consequence of this was that it further marginalized in-stream uses, since the only alternative to the acquisition of rights from the state is to buy them from the market, but after the reform this implied for in-stream uses an extra tax for 'non-use' (Prieto & Bauer 2012)[95]. Non-consumptive rights have also generated conflicts with downstream users: these rights are regularly used by energy companies to control the flow of rivers (storing and releasing water according to the demand of the national electricity grid), which has frequently clashed with the irrigation needs of consumptive users (Bauer 2009). Today, nationally, virtually all non-consumptive rights are in hands of the energy sector (*ibid*; see Chapter 3).

[95] This had consequences for the Municipality of Pucón in particular. See discussion below.

The Municipality of Pucón, in which the area of study is located, constitutes a partial exception in this regard. In 2005 the Municipality had solicited non-consumptive rights in ten rivers within its territory, as a way of protecting its tourist economy, heavily reliant on nature tourism and water sports. This was the only case in the country were water rights had been acquired by local authorities. However, given the tax for non-use introduced by the reform to the Water Code, when the administration changed, between 2009 and 2012, these taxes were not paid, which generated a debt of over 1700 million Chilean pesos—around 2 and a half million USD. This generated a long legal process in which these rights risked being auctioned. Only in July 2017 was the situation resolved by a legal manoeuvre that transferred the rights to the Ministry of the Environment, making the debt redundant (Araucanía Cuenta 2017).

This *ad hoc* solution further exemplifies the extent to which a wide range of uses of the waterscape are only marginally represented in the law, if at all. As explained in more detail in Chapter 3, overall, one of the effects of the 1981 Water Code was establishing the dominant role that hydroelectricity companies have assumed in river basin management in Chile, through the creation of non-consumptive rights. As Bauer (2009) holds, notwithstanding the doctrines championed by the neoliberal economists behind the water code reform, this was not achieved through putatively 'neutral' market dynamics, but rather by an institutional framework designed to foster the use of rivers by hydropower capital, excluding other uses and activities from an equivalent legal recognition. This has been at the core of many conflicts since.

Climate changes in the *cordillera*: abundance and scarcity in Huife's waterscape

In the traditional geographical imaginaries of Chilean society, 'the south' has always been associated with an (at times excessive) abundance of water in its various forms: copious and all-year-round rains that feed into the many rivers which in turn fill the numerous lakes that characterise this part of the country, and that contrast starkly with the long dry seasons of the central region and the perpetual aridity of the Atacama Desert in the north. During the past several years, however, this image has been unsettled by the effects of a relentless succession of uncommonly dry years; what the Centre for Climate and Resilience Research (2017; see Garreaud et. al 2017; 2018) has called a 'mega-drought', affecting all of central-southern Chile, unprecedented in terms of both temporal persistence and geographic scale. In the case of the Araucanía region, these circumstances intersect with a particularly conflictive political ecology that bears the historical weight of both the brutal dispossession of the indigenous population in

the second half of the nineteenth century (see Chapter 4), and the past four decades of neoliberal development centred on the expansion of a heavily concentrated forestry industry reliant on the water-intensive monoculture of exotic tree species. This has meant that, in addition to the perennial land conflicts, there has been a proliferation of water conflicts between communities and the different industries located in the region—which are not limited to forestry, but also include aquaculture, and increasingly, hydropower. Events like the drying up of water sources has thus become a common occurrence in many places[96].

In short, a creeping, and inevitably ethnically inflected, sense of scarcity is commonly found in conversations about water, including in the Liucura valley. In fact, in Lefincul, a locality just a couple of miles downstream from Huife, water has recently been having to be supplied by municipal water trucks during summer months, something which "was unheard of" in years past. Nestor Salazar told me in his home located in Papal, on the mountain side just overlooking Lower Huife, that

> From here down river, water is becoming a problem, water springs are drying up and people are running out of water, as these past few years have come dry. They say they have but a tiny thread of water, almost not enough for the house. A friend had to build a tank to gather some water, it was not being enough. They go to gather water with barrels, he made a tank to have for the basics. (…) The last two years have been very, very dry, and I think it will stay like that.

Of course, very far from being a simple 'natural' phenomenon, this scarcity is produced by the concatenation of a wide array of factors, and the complexity of local narratives of scarcity tend to reflect this. In general terms, water becomes scarce in relation not only to the irregularities imposed by an intensifying global climate change but also to the intensification of the demands placed upon the region's waterscapes by the global capitalist economy, demands whose hegemony has been firmly consolidated by Chile's four decade long experiment with neoliberalism. In those parts of the region where pine and eucalyptus plantations have expanded, scarcity has been most severe, accompanied by increasingly uncontrollable seasonal wildfires, and a new and militant recomposition of Mapuche historical struggles in these areas (Klubock 2014; González-Hidalgo et al. 2013). In the municipality where Huife is located—characterised by a far less militant Mapuche population and a relative, if highly uneven, affluence derived from the growing tourist industry—it is hard to imagine that the exponential growth of tourism and the concomitant infrastructural development has not had a determinant

[96] See Navarro Mena n.d., https://www.sequiaenlaaraucania.cl/

impact on the availability of water during the summer months, in which both the peak influx of people and the driest season of the year converge. Indeed, as seen in the previous chapter, in the downriver localities Nestor refers to the past few years have been characterized by the conversion and subdivision of old *fundos* (large plots) into summer plots generally aimed at the urban middle classes.

The fact remains, however, that in localities like lower and upper Huife, as in Llancalil, the communities' traditional relation to water is normally depicted as one characterized by relative abundance: most families have direct access to water in their own plot, and the most common answers to the question of what is most valued in the territory frequently involve a reference to the quality and quantity of water. This context has conditioned the particular socio-cultural forms in which the waterscape is locally embedded, an issue to which I will return in a section further below. Here, however, it is important to note that the local waterscape is, in this sense, object of a complex interplay of notions of abundance and scarcity. These notions, being as they are relational in essence, point to the different social registers and scales in which water circulates as part of a complex hydrosocial cycle, in relation to which it variously acquires attributes of scarcity or abundance. When the local waterscape is regarded in the light of the contrasting and combined experience that many inhabitants have of urban and rural life—the role of semi-proletarianisation explored in the previous chapter, which is inscribed in the life history and livelihood strategies of most inhabitants, and hinges on a varying combination of wage labour in cities, production for subsistence, and production for the market—water in Huife appears characterized for the most part by its non-commodified form and direct access, both conditions premised in the relative abundance afforded by local ecological conditions. This is normally contrasted to the local experience of urban life, where, as Graciela, who lives in Llancalil, put it, "one needs money for everything, even water". The relative abundance of water plays here the role, among others, of being one of the fundamental conditions for the sustainment of social and economic reproduction as it currently takes place. Moreover, not only the territory's water plays an important part in the inhabitants' present livelihoods, but also plays a fundamental role in local imaginations of possible futures as well, as it constitutes part of what is locally regarded to be the territory's natural wealth.

This relative abundance is however readily recognized as being fragile, and its tendential erosion looms large in local narratives of change. In particular, narratives around the opposition to the Llancalil hydropower project very commonly draw on a generalized perception of a clear tendency towards increasingly less available water, which in turn stems from a vernacular sense

of gradual, yet far reaching, climatic transformations. In the interviews I conducted this was expressed firstly as a change in rain and snowfall patterns during the winter months, which replenish the snows in the mountains from where the Liucura and Llancalil rivers originate, and from which they draw most of their water during the relatively dry summer months. Osvaldo Ibarra, an older resident of lower Huife, explains that “now there’s much less snow. (…) Those of us who are older know that it rains less during the year, and there is less snowfall. This is the cause of there being less water, and the river flowing so shallow”. Not only the older members of the communities speak of these trends; for instance Osvaldo’s daughter Nery, who was 35 at the time of the interview, told me that "I remember when I was younger it snowed a lot in Llancalil, over two metres of snow. Now it doesn’t go over fifty centimetres or so. In two days it is gone”. Although some of the people I talked to made passing reference to media representations of climate change as global phenomenon (especially younger people), in all of the accounts of climatic change the primary reference was to concrete changes in the experience of local environmental conditions, rather than on more abstract notions of change as something occurring on a planetary scale. The notions of climate change that I encountered were very strongly rooted in the territorial experience, and especially in the intergenerational communication of the local ecological knowledge. Take for instance this conversation between Nestor, middle aged, and Marta Salazar, his mother, in her house in upper Huife:

> Marta: The Mountains used to have snow in midsummer. Not now, now there is too little snowfall. And these [the river’s] waters are snow waters.
>
> Nestor: They say that with the passing years this is going to be like the central region [of Chile], the heat is going to come this way.
>
> Marta: But you can see that already! In the old days, when would you see heats like these?
>
> Nestor: We couldn’t cultivate tomatoes before. And this past year we cultivated some tomatoes, and this year we are doing so again.

In this exchange Marta draws very directly from her experience, as does Nestor, who nonetheless brings in the notion of changes on a broader national scale. In general terms, long term changes in climate and water become evident as intergenerational ecological knowledge is produced through these kinds of conversations.

This vernacular sense of climatic change acquires its local relevance from the fact that it mostly expresses itself through tendencies in the waterscape. And it is this tendential movement of the waterscape in time that underlies much of the local opposition to the project, which it is

generally felt risks turning what is now a tendency into a full crisis, like the one experienced in other localities. Here are, for example, a few of the concerns expressed to me by some of the interviewees:

> The water here, the river, they do not know that in this time [late summer] there is almost no water. (…) It has changed a lot, it carries half the water it carried before. In other years in October there were huge flows of water, the river was deep. Now in October the river was really shallow this year. It is diminishing. And if they come and tube the water, it will dry out. *Felix Salazar, Upper Huife*

> How are they going to build this project when the river is carrying so little water? It almost carries none at all, these last few years, each year it carries less. (…) The waters is what we value the most, because who would like to live on dry lands? [*quien va a querer un campo seco?*] (…) Water is life. This river feeds from snow, and it has snowed so little. *Marcela Wenzel, Upper Huife.*

> In Lefincul there are people who already have no water. They will have to bring water trucks. Imagine with the hydroelectric [plant] drying the river for miles, those will be dried out fields. Imagine with the drought we are going through now, even now in April. We have a huge drought. And with the hydroelectric [plant] drying up the river for miles, the impact will be very big. *Anita Goeppinger, Lefincul, born in Llancalil.*

> I disagree with that project, because the river is carrying such a little amount of water that if they tube it, it will be left dry, the fish will all die. The river will be left without water. *Adolfo Matus, Upper Huife.*

In all of these cases, the local experience and significance of the changing climate and its impact on the waterscape is at the root of the opposition to the development of the hydropower project. This marks an interesting contrast with some of the narratives mobilized by both government and company around the new wave of small-scale hydropower projects such as 'Llancalil', touched upon in Chapter 3. Among these discourses, their contribution to the purported[97] decarbonisation of the energy matrix figures with increasing prominence, a discourse that is underpinned by an understanding of climate change that places its main points of reference on atmospheric chemistry, the prospects to sustained economic growth, and the planetary scale (see Pacheco 2018). The different scales of climate change as a process are thus

[97] I say 'purported' because none of the future scenarios that underpin the government strategic planning on energy contemplate a reduction in overall emissions, but rather reductions in the carbon intensity of the economy, ie. how much emissions are implied by each point of GDP growth. See Ministerio de Energía 2018.

mobilized in narratives both for and against the project, narratives that account for the different cultural anchors (Hulme 2008) and class positions through which these transformations take place, which in the coordinates of the current conflict are expressed in different (and clashing) understandings of how to adapt to an uncertain future. In Huife, the sustainment of local communities and territories in the context of what they perceive to be a clearly changing climate entails first and foremost the need to protect the rivers from the threat posed by projects like the hydropower plant, while for the state the main adaptive challenge is that of seeking energy alternatives rooted on what it recognises as its 'national resource base' to sustain the prevailing patterns of economic growth. I will explore this issue with more detail in the next chapter, as it surfaced in different ways during the public meeting the company held with the community, and intersected with issues around the relative validity of differently situated knowledges.

Figure 24. Llancalil River, a few metres from the proposed project, which shows the extremely low level of water at the end of the summer season. Taken by the author, March 2016.

The waterscape and the moral economy in Huife

As I pointed out before, this sense of growing scarcity in a way contrasts with the fact that in lower and upper Huife, as in Llancalil, the communities' relation to water has been traditionally marked by its relative abundance: springs abound in the mountain slopes, and most plots have

at least one source they can tap into for domestic use. This is widely recognized as one of the territory's main riches by its inhabitants. Indeed when Marta, who lives in upper Huife, tells me "what is it that we value the most here? The water. (…) Water is the most beautiful thing here, because no one pollutes it, there is no one living further upriver from here", she echoes the widely held notion that in contrast to life in towns and cities, and whatever its shortcomings, living in the *cordillera* at least secures access to water in abundance, quality, and free of charge.

This relative abundance has meant, for example, that in contrast to other regions, there has been no need for formal and/or permanent forms of collective action and organization for the provision of water, either for direct household use, or for small-scale subsistence production, such as irrigation of small orchards, or the maintenance of backyard animals. In general, most water needs, including the construction of whatever infrastructure has been needed, has traditionally been resolved at the level of the household. When the area was settled, most families tended to locate their houses near a spring they could easily use. Now, "almost all of the plots have their own water", says Adolfo, an old inhabitant of Upper Huife; those who do not, normally have informal arrangements with neighbours to access sources of water located in other plots: "if one wants water, one only had to ask the neighbour for permission, take a hose, and draw water. The neighbour wouldn't charge or anything", explains Magali, who was born in Upper Huife, and recently moved back. Félix, a second generation settler in Upper Huife, for his part describes the general situation of water in the Huife valley in the following terms:

> Almost every plot has water, there is no lack of water here in the *cordillera*. The river serves the animals, the vegetation, the fish, all that. (…) Marcela [a neighbour living in the adjacent plot] uses a little water from a stream that flows near her place. We just have an agreement, nothing formal, just like that.

The two main rivers mentioned here (the Liucura, that flows through Huife, and Llancalil, through the valley of the same name) are nowadays mostly used by the families' cattle as a source of water. The meaning, however, that these rivers hold for the families settled in these valleys can hardly be reduced to their use in a narrow economic sense, as it is generally regarded to sustain the basic conditions of ecological wellbeing of the territory. The vernacular notions of the ecological importance of the rivers can be seen, for instance, in the local narratives that surround the potential development of the 'Llancalil' hydropower project. Take for example what Nery Ibarra, from lower Huife, says regarding the potentially catastrophic impact that the hydropower plant might have if it interrupts the river flow:

> If they do this everything here dies. I'm going to say this very clearly. If they do this project all of this greenery we have here will die, all will dry out. Just like that. The water spring we have will dry out. There won't be any grass left for the animals, there won't be anything. (…) The people who raise cattle won't be able to do it any longer because they will die of thirst, of hunger, there will be no grass, all this green area will die. Because, when one wakes up in the morning, (…) there's a humid mist, a fog, (…) if they dry the river up, if they tube it, there won't be anything, everything will dry out, and that's the biggest problem there'll be.

Intervening in the rivers on the scale introduced by the project is unprecedented in this area, and the profound sense of uncertainty that the 'Llancalil' project introduces for the community lends itself to images of ecological catastrophe that draw from local ecological knowledge of the importance of the river in the maintenance of the valleys' basic ecological conditions. Conditions which, although clearly recognized as a common baseline for the life of everyone in the valleys, had never before called for forms of collective organization, nor its explicit articulation in any sort of written rule.

The arrangements and the general place of water in the relations between families has thus been in this sense essentially informal and unwritten. It would be an error, however, to mistake this absence of formal regulation and organized enforcement for a lack of any regulation of water use at all. As Ivan Illich noted regarding the 'law of the commons' that regulates things like "the right of way, the right to fish and to hunt, to graze, and to collect wood or medicinal plants in the forest", it normally consists of a set of unwritten attitudes and expectations, which remained unwritten "not only because people did not care to write it down, but because what it protected was a reality much too complex to fit into paragraphs" (Illich 1983:2). Indeed, the degree to which water is in fact regulated becomes clear when one considers the extent to which the commodification of water use that the Water Code tries to introduce is locally regarded as breaking a wide range of 'common-sense' moral rules[98]. Take for instance the opinion of Osvaldo, an elder resident in Lower Huife:

> Before, everyone believed that the owner of the waters was the owner of the land. [If someone did not have any] the neighbour would share water, but not a formal thing, just like that. Before it was said 'one cannot deny the neighbour neither water, nor right of way'. (…) If the neighbour asked for water one gave it to him, a small channel was made and a

[98] I am here using the term common-sense in the Gramscian sense of the spontaneous and largely implicit attitudes and conceptions of the world that arise from the everyday practical reproduction of life. These conceptions should not be attributed a clearly spelled out coherence however; rather, they are inherently fragmentary and contradictory.

> little water went to his side. It was like a good of the whole commune [*Era como un bien de toda la comuna no más*]. It was given to whomever needed it. Not anymore. Now it's worse. Now the one who has money just owns everything.

Or that of Guillermina, who at the time of the interview was the head of the Neighbour's Council:

> Waters used to be public, and no one worried much about this. This until outsiders started to covet [*empezaron a echar el ojo*] the neighbours'[99] water, and then people had to move [to protect their water]. (…) For me the way it should be is like it was before, when everything was healthier. If the neighbour needs water, well she needs it, 'take a little bit neighbour', if other neighbour is without water, 'of course, take some water', because this [current system] lends itself to business, it lends itself to pure shamelessness. If I were to sell these water rights, I might earn a great deal of money, but I'm not going to. (…) For me it should be healthier, as in the old days when everyone used water, more informal, but now, everything is business, shamelessness, whoever is able to trample over the other just does it, who gets trampled over gets trampled over. There is no healthy coexistence [*convivencia*] between neighbours. If one is healthy, you get trampled over. For me this is due to the law [the Water Code].

Testimonies like these make explicit the normally implicit attitudes, expectations, rules, and moral notions in which the local waterscape has been traditionally embedded by way of contrast to the water politics of the Water Code, which now acquire increased salience as it is clearly identified as the main condition of possibility for the development of the Llancalil project. These rules—which underpinned all accounts of traditional water management that I encountered—can, however inadequately, be summarized as follows: 1. that water use is a prerogative of whomever owns the land in which the water flows, 2. that one cannot therefore appropriate or use it against the landowner's will, and 3. that, if needed, one is generally expected to grant/gain access to water to/from a *vecino* through some reasonable arrangement. These 'common-sense' rules can be clearly seen to lay behind, either implicitly or explicitly, most if not all of the criticisms that I encountered regarding the conditions that allowed for the Llancalil project to take place, specifically those related to the appropriation of water by outsiders enabled by the legislation. I will return to this point in a section further below. But here it is important to note that the attitudes conveyed by these testimonies point to the degree to which water, far from being 'unregulated', is in fact embedded in a complex, but largely unwritten, set of rules that delineate some of the elementary conditions of conviviality that have produced these valleys as a co-inhabitable space (see Chapter 4). These unwritten rules can be read as expressing certain

[99] Here the term '*vecinos*', literally neighbours, should be read as the community as a whole.

values according to which behaviour is judged, values that can be said to have consolidated in local common sense as an integral part of the historical establishment of the basic relations of co-existence between the originally diverse groups settled in a once remote area. Relations which can be seen to be condensed in the word '*vecino'* (literally, neighbour) that the inhabitants of the area normally apply to each other (as opposed to outsider), and which denotes the condition of living together, of sharing a common space, of convivial adjacency. Thus the word *vecino*, far from simply denoting location, *refers above all to a moral relation*. Recall here Feliciano Millaqueo's recount of the conflicts between the Mapuche and Chilean settlers during the first generation, and how: "with the title on hand, things calmed down, and [settlers and Mapuche] *treated each other as 'vecinos'*. They greeted each other, and did *cambio de mano* [reciprocal labour], they got married". What constituted Mapuche and Chilean families as *vecinos* was not merely locational adjacency, but the progressive construction of the basic moral relations of mutual recognition and (many times forced) reciprocity, which developed in tension with historically evolving cleavages of ethnicity and economic stratification.

In this sense, far from being trivial, the word *vecino* entails a profound importance for it signals the domain in which the Water Code truly operates—a fact seldom recognized in the literature on the subject.

The commons that are affected by the enclosure of the waterscape should not be seen to be primarily 'water' itself, but rather the moral relations of mutual recognition that underpin the always unstable and tension-ridden notion of 'community' that emerged from the settlement period. Indeed, far from being the product of some abstract 'altruism', the relations of reciprocity which the word '*vecino'* entails and the moral economy that it indexes are in fact emergent from the quite concrete concerns of subsistence that the communities faced during and after the settlement period, in the midst of which the production of a *social commons* beyond the household became consubstantial to the business of carving out a viable livelihood in these then remote valleys. The concerns expressed by the inhabitants of Huife and Llancalil are no decontextualized moralistic rhetoric, but are rooted in values emergent from the historical production of the fabric of relations that gives rise to the sense of community as such; the importance of which rests on the firm grounds of the materially disadvantaged position and relations of unequal exchange[100] that the peasant household economy has historically endured in its relation to the national and international market and the wider Chilean society. It is in this

[100] For a detailed exposition of the different forms in which unequal exchange is articulated in the relations of the peasant economy with capitalist markets see Bartra 2006:240-280.

sense that the abstraction of the right to use water from the relations pertaining to land and community that the Water Code effects is held by many to be a source of moral corruption; as the then head of the Neighbour's Council, Guillermina, emphatically puts it, "*se presta para pura sinvergüenzura*": "It lends itself to pure shamelessness". In the local moral economy of water, commodification is perceived as profoundly antisocial in its content, and dangerously alienating in its socio-territorial effects.

Markets and enclosure in the waterscape.

The fundamental political-ecological condition of possibility for the current expansion of the energy frontier upon the Andean foothills is the commodification of water rights, and the legal form of 'non-consumptive' rights in particular. Although, as I described in the first section, the origin of these rights date back to 1981 and have at a national scale in effect played the role of the legal cornerstone for the metabolic basis of the dominant strategies of accumulation established by the Pinochet regime and consolidated since, for inhabitants of these localities the Water Code held no direct local consequence until much later—indeed, for many the relevance of the code only became manifest with the looming possibility of the "Llancalil" project. Until very recently, many people did not have any sense of a pressing need for them to register their water usage, nor a clear understanding of the code. When, for instance, I asked Marta Salazar if people had registered their water rights, she told me in no uncertain terms that "here none of that was done. We only knew now recently that the waters were already sold". Her husband Félix, on the other hand, told me that

> [The issue of regularisation has become important] Because we've been seeing in the news that waters belong to the state [*son del fisco*], and that we need to regularise them, otherwise anyone can take them, and then sell them back to you… in case one solicits them. That was not known before. (…) It must be around ten years when that began to be known. And it's all wrong, because one is used to having one's own water. They also say that the paperwork that one must do is very complicated, that's why people don't do it too much.

Felix's testimony is interesting for several reasons. What first caught my attention at the time was the antipodal opposition between how the changes effected by the Water Code appeared to Felix, and the ideological terms that underpinned and defined the purpose of the original design of the Water Code—ie. that state control excreted a distortive effect on the efficient allocation of water rights, and that therefore, if one wished for a rational use of water resources,

it was necessary "to remove the statist weeds" (Büchi 1993:64) that interfered with the 'free' allocation of water to its most efficient uses. In contrast, from Félix's spontaneous perspective the most obvious effect of the Water Code is transferring control over water precisely to the state (and potentially to someone outside the territory), by way of the power it acquires of granting property rights over it in abstraction from land. Thus, for Felix the news he has heard about the Water Code boils down to the concrete experience that now "waters belong to the state". This perception is further reinforced by the fact that it is through this control over water that the central government has been able to effectively territorialise its energy agenda over the mountain valleys of the region, without the need to negotiate with local communities and their geographies in any meaningful way.

Relatedly, reflecting what Graeber (Graeber 2015) has called "the iron law of liberalism"[101], and against the ideological mantras that accompanied the original design of the Water Code, from the perspective of those living in Huife the "removal of statist weeds" and the purported establishment of market rationality has been in effect the unprecedented bureaucratisation of the waterscape. One of the most common images that came up in my conversations on the topic with people in the area was the general obscurity that surrounded the process for regularising water rights, which was perceived as characterised by long, expensive processes which as often as not could end in what for many appeared as unexplainable rejections of claims. Few had a clear idea of the distinctions between types of water rights and between the different levels of government normally involved (Municipal, the General Water Directorate [DGA], etc.). Those who had regularised their water rights had normally done so through the intermediation of government programmes aimed at supporting small-holding production like, for example, Prodesal. These, however, were almost invariably consumptive rights. As Selva told me in her home in Papal, "It's very expensive… it is not just going and doing it, it is easier for those who have money. For us people in the countryside, it's difficult".

One of the predictable effects of all of this has been that of ultimately producing yet another vector of dependence with lawyers and local government bureaucrats, the latter of

[101] "This apparent paradox—that government policies intending to reduce government interference in the economy actually end up producing more regulations, more bureaucrats, and more police—can be observed so regularly that I think we are justified in treating it as a general sociological law. I propose to call it "the iron law of liberalism": The Iron Law of Liberalism states that any market reform, any government initiative intended to reduce red tape and promote market forces will have the ultimate effect of increasing the total number of regulations, the total amount of paperwork, and the total number of bureaucrats the government employs." (Graeber 2015:7)

which have acquired increased power over the territory due to their privileged knowledge of what from the local perspective appears as an intractable bureaucratic maze, which in effect puts them in the position of gatekeepers. And it was through this relation—produced through the imposition of the commodity form upon the waterscape—that the company behind the Llancalil project originally came about the water rights they needed in the first place, a fact that is the source of one of the main issues of illegitimacy that the project faces at the local level.

The story, known by everyone I talked to, is as follows: a known secretary of the Municipality, who was apparently in charge of registering water rights, registered several non-consumptive rights in the name of she and her daughter in different river basins in the municipality, and later sold them to the company behind the Llancalil project for the equivalent of 250 million pesos, or around 370,000 USD. This, being as it was wildly out of proportion to the relatively meagre amounts that the company was reportedly offering as compensation to those directly affected—reportedly anywhere from 3000 to 7500 USD—, was widely regarded as completely corrupt, and was during my time there constantly brought up in different contexts as one of the points of illegitimacy inherent in the project. Marta Salazar, for instance, wonders "how is it possible that she, and outsider, can come and claim rights for this river, when one's been living all life here on its banks!" This sense of dispossession is prevalent, and is directly tied to the local experience of the effects of the Water Code.

In addition, the experience of difficulty and frustration that many have with the regularisation process contrasts sharply with the perceived ease with which the secretary, an outsider, manoeuvred and acquired the rights to those rivers passing through their very own lands. "She had the information, she knew how to do it" Selva explained, after telling me of the difficulties she knows local people have regularising water. Guillermina in Lower Huife, for her part, says

> I had a very hard time doing it [regularising her water rights], because one has to justify that one has several years using it, one has to prove that the water is used for drinking, animals, irrigation, one has to prove that. … So I had a very hard time, and she [the secretary] that doesn't even live here?

For her part, Graciela, who lives in upper Huife, and whose plot—a beautiful riverside meadow in Llancalil—is directly affected by the project says that

> There are some [who haven't regularised their water] yet, they do not have an idea of how to do it. … That's the bad law, that anyone can come and claim the water going through one's own property, and you lose, just like that… it shouldn't be that way, look at what this

> lady [the secretary] did, she claimed the waters and they gave them to her, just like that, and one that has asked for this and that, like 'how much you consume', and then to verify it… because in our case we had applied for water from the river and they refused. … When my husband wanted to apply for water from the river, all quotas were exhausted. We wanted to apply for water for irrigation, for the animals, but there was none left, and she [the secretary] that had nothing to do with it came to acquire them for herself.

Of course, the rights acquired by the secretary were of the non-consumptive kind, but in my conversations the abstract character of the distinction was easily lost in the concrete local experience of the waterscape. This distinction for most remained unclear, part of the general obscurity of the Water Code. After all, paraphrasing a young person told me in passing in another occasion in lower Huife, is it not from this perspective the mere act of living by the river a form of non-consumptive use? From the local experience of the waterscape the distinction, crucial for the expansion of hydropower in Chile over the last three decades, holds little meaning beyond enabling outsiders a claim to the rivers.

All in all, there is clear sense of vulnerability effected by the Water Code, one that is magnified by its relative obscurity from the local perspective, and the relations of dependence it has enabled. This in turn feeds into a wider pattern of perceived loss of control over the region by those inhabiting it (see Chapter 5).

On the 'moral economy' and social form

I have used the term 'moral economy' here to describe this vernacular form of water politics, as the logic of the case here presented shows evident parallels with those described by historian E.P. Thompson in his classic analysis on the motivations behind popular resistance to the liberalization of food markets in eighteenth century England (Thompson 1971). In essence, Thompson's argument revolves around how the practices that the new laissez-faire doctrine of political economy declared both natural and ultimately beneficial for the 'common good' where perceived by a range of social groups as transgressing the basic norms and obligations that held society together: to wit, a right to subsistence (in this case, access to affordable food), the guarantee of which constituted the paternalistic basis of the authorities' claims to popular legitimacy. In both Thompson's case and the one dealt with in this study, the practices that

constitute the 'liberalization of market dynamics'[102] within a particular sphere, are judged as breaking 'common-sense' rules and obligations that underlie a historically constituted form of social cohesion.

I must however make a few qualifications to my particular usage of the term. It is critical to understand that, regarded in its own terms, the 'moral economy' of water here described is no 'economy' at all—indeed not even primarily about 'water' as much as the mode of relationality it sustains. We are here dealing with relations of mutuality between people that delineate an always provisional sense of community, the material and metabolic basis of which is cast as 'economic' by the fetishizing movement effected by the Water Code. What is resisted is precisely the reduction of water to a distinctly economic resource susceptible of being bought, sold, and subordinated to a narrow logic of individual utility-maximization; i.e. something susceptible to be alienated and abstracted from the relations between people, and between them and the land. This means that, in a strict sense, what I am calling 'moral economy' are precisely relations that are not primarily mediated by the economic category of exchange value and the commodity form—i.e. they are not 'economic' relations in the sense entailed in capitalist production. As Thompson himself points out, the moral economy consists of practices which "exist as a tissue of custom and usages until they are threatened by monetary rationalizations and are made self-conscious as a 'moral economy'. In this sense, the moral economy is summoned into being in resistance to the economy of the 'free market'" (Thompson 1993:340). It is only in the shadow cast by the fetishizing movement of the capitalist mode of production that moral relations regulating the relations between people appear as moral

[102] This expression, as is so commonly the case with economic jargon, is from the point of view of the moral economy little more than a crude euphemism, and can therefore conceal much more than it reveals. What an economist may call 'liberalizing market dynamics' in water rights, from the point of view of the moral economy is variously characterized as 'trampling over', 'shamelessness', or straightforward theft. A closer examination of the presuppositions contained in the expression 'liberalization of market dynamics' is indeed necessary if we are not to unwittingly assume premises that are not in any way guaranteed to be shared by those affected by the 'liberalized market forces'. Although doing this in depth of course goes beyond the scope of our subject here, it is nonetheless necessary to signal a few points important for our case. In the first place, the expression implies a conception of the concrete individual as one whose relation to any social arrangement not mediated by rational self-interest is one of 'artificial' containment. 'Market forces' are in this sense nothing more than the aggregated expression of individual acts of 'freedom', therefore their institution cannot be but characterized as essentially a movement of removal of constraints, rather than an imposition of a new set of the latter. All of these are, of course, the quite extraordinary claims of classical liberalism which are, at best, hardly self-evident, but continue to be persistently smuggled as the unexamined premises of the hegemonic language and metaphors through which these processes are being understood and presented in many academic and policy circles. As I have explored here, these terms obscure the real relations that constitute 'liberalization', and in particular they lend themselves to common mystifications between the relations of 'markets' and state, which end up blighting the analyses left and right.

relations constraining the 'free' movement of things. Thus my usage of the term here is dialectical: it denotes a term in a contradiction emergent from the expansion of the fetishizing mechanisms of capitalist production on the multiplicity of relations mediating social reproduction. And it is important to note that this movement effects a double reification: the expansion of the commodity form over the material basis of social relations is by necessity the transformation of the latter into relations between commodity owners, relation that in turn underpins the liberal state as the alienated form of the political community (Clarke 1991; Bonefeld 2010; 2014). Taken to its logical conclusion, the progressive erosion of reciprocal obligations that the code is perceived to effect entail the increased dependence in external authorities for the regulation of intracommunity relations. This is why, as Ivan Illich (1983:4) noted, "commons can exist without police, but resources cannot".

It is important to link the notion of the moral economy to the discussion in Chapter 2 of this study: what the concept is pointing to are the values mediating and orientating the relations of mutuality between people, values regulating certain domains of the process of social reproduction, and its metabolic relation to, in this case, the local waterscape. These values are not to be understood as uncontextualized moral discourses, but as socio-symbolic aspects of a unitary process of historically and geographically situated forms of practice and social reproduction. The establishment and/or expansion of the commodity form as mediation between people among themselves and to nature appears in this sense as a struggle between different forms of value and the differentiated light these shed on how people thread upon the land.

In this sense, it is also important to emphasize that the term 'moral economy' is not to be confused with any normative judgment on the part of the analyst on the moral desirability of a particular set of non-commodified relations. It goes without saying that moral economies can be—and normally are—fields of struggles of their own. This is clearly illustrated, for instance, in a conversation I had with a woman from upper Huife as I gave her a ride to Pichares, in which she spent a good portion of the journey telling me about how annoyed she was with her neighbour's behaviour, with whom she had to put up to an extent she wouldn't if she didn't have to get her water from his plot. It is easy to imagine how this sort of 'forced reciprocity' could take on much more sinister tones in cases of dearth or an absolute lack of alternative means of access to necessary resources.

Nor should these local appeals to the moral economy be taken to imply that actors considered to be part of the community are unable or unwilling to take advantage of emergent

markets—in fact, much of the opposition to the commodification of water rights rests precisely on the extent to which, to the detriment of the community, some actually do. The extent to which the commodity-form of water (or land) can be used for particular families' advantage causes running tensions within the community, and indeed was a perennial source of gossip, tensions, and fractures. In this sense, when I speak about the opposition between the 'moral economy' and commodity relations in relation to waterscape, it is important not to mistake this as an opposition occuring, as it were, between a dynamic 'external' to the community being imposed upon a realm of supposedly uncontaminated community relations. On the contrary, this opposition rather signals a dialectic that cuts across the community and its members, some siding more decidedly on either part, some playing a much more ambivalent role, or placing themselves strategically on different sides depending on the context. Indeed, this fracture and its systematic exploitation by the hydropower company is generally regarded to be one of the most insidious impacts that the hydropower project has already had on the area.

Finally, and relatedly, my usage of the notion of the 'moral economy' must not be taken to imply, of course, that market and commodity relations—or their relation to the state—have not been central to the constitution of these communities as they now exist. The extent to which they have was explored in some depth in previous chapters. The point is, however, that hitherto water has been on the margins of commodification, and for good reason, as for those now opposing the Llancalil project it is becoming clear that control over the waterscape is one of the basic conditions for some modicum of territorial control. Commodification, on the other hand, has constituted the direct condition of possibility for interventions on the scale of the Llancalil project on these lands, through the dispossession of local water resources by outsiders. The preservation of the unity between water and land is in this sense a condition for the maintenance of the metabolic basis of the local economies as they exist, and can be easily seen as providing the basis for articulating the local experience to the political demand of recovering 'water as a common good' that, as we saw in Chapter 3, continues to gain traction at a national level.

Concluding remarks

In this chapter I have tried to understand the process of commodification from the point of view of the vernacular hydro-social relations that have developed over the socio-historical trajectory of the Liucura River's upper valleys, a web of relations that can be understood as a moral

economy of water. A focus on these relations sheds a different light on the presuppositions prevalent in the scholarship around the Chilean water regime, which too often uncritically assume a simplistic opposition between the market and the state, in which the expansion of former is achieved at the expense of the regulatory capacities of the latter. As true as this may be on a certain level of analysis, the case presented here shows more clearly the ways in which it is not on other crucial ones. On the contrary, the ways in which these two social forms are co-constitutive needs to be placed more firmly at the forefront if we are to adequately understand the energy frontier as it is actually taking place in Chile. From the perspective of the moral economy, the water code introduces a struggle not only for the control over water—which is certainly does—but also for the social forms that mediate social reproduction, and the relations to nature.

The commodification of water rights has been, from the local point of view, a clearly exclusionary process, given the expenses and complexities involved in the regularisation process. Local use and access to water remains without official recognition—a direct effect of the neoliberal water regime—for an important portion of the inhabitants, and thus accompanied by an increased sense of vulnerability and insecurity. This sense, as we have seen, is in turn underpinned by the tendential changes the waterscape is locally perceived to be undergoing.

The social relations produced by the commodification of the waterscape can thus be characterised by the several aspects. First, they have enabled new ways of territorialising the state's strategic projects—linked to new geographies of rent and energy (see Chapter 3)—over the *cordillera*, in particular through enabling the appropriation of water by outside interests, and reinforcing the historical relation of relative subalternity of the local communities and their geographies. In addition, the commodification of the waterscape has in effect meant the deepening of the relations of dependence of the local population vis-à-vis local government authorities. There is a related pervading sense of dispossession and lack of respect by the central government for local concerns and visions of what the future of their territories should be. Commodification, on the other hand, is frequently characterised as further eroding local relations of conviviality, which are in part expressed and sustained by the relations of the community to the waterscape.

An attention to these social relations produced at the local level by the water regime—and those that are displaced by it—is of crucial analytical and political importance, as it is the locus of the main conflicts and obstacles now pervading the energy frontier. Although what is

presented here is a particular case, the historical constitution of these territories share many similarities with that of other mountain valleys of the region, valleys upon which the new geographies of energy are being cast.

As previously mentioned, the case presented might add a more nuanced view on the current terms in which the neoliberal water regime is commonly understood—and thus how it should be potentially challenged. Thus the idea that the neoliberal order should be seen as being surpassed by the extent to which the "state is brought back in", should, at the very least, be qualified by an understanding of the clear ways in which it never really left, and has even expanded its reach through its dialectical intertwinement with the unprecedented expansion of the commodity-form as socio-ecological mediation under the neoliberal period.

7. Huife and the Llancalil project

Even in its initial phases, which I was witnessing during my fieldwork, the multidimensional and layered nature of the conflicts the Llancalil project had brought about was evident. The ripples that the project casted upon the human geographies of the *cordillera* were as dense and expansive as these geographies themselves; as it unfolded across the different overlapping scales that implicate these valleys, the project's significance varied and acquired different inflections.

On one level the project expressed deeper tectonic shifts in the national geographies of energy, changes that in turn instantiated broader global transformations in the ways capital operates through the expansion of energy infrastructures (see Chapter 3). These shifts, however, only materialise as mediated by the multiple conflicting scales and territorial layers that converge in these valleys and rivers. This study has placed special attention on a particular set of values, practices, and territorial notions that have emerged in the course of the conflict as immediately significant and important for those whose identities and lives are attached to the landscape in which the Llancalil project takes place, and which the current conflict has placed at the forefront. These find an approximate institutional territorial representation in the Neighbours' Council, which encompasses the localities of lower and upper Huife, Llancalil, and Papal. Nevertheless, as I have shown in previous chapters, this particular scale, and the community of people and identities that it expresses, are constituted through their relations to a much broader range of territorial dynamics. The conflict introduced by the Llancalil project in this sense involved, to different degrees and intensities, all of these wide range of relations, scales, and territorial notions that converged and were expressed in these valleys, many of which I had little direct access to, but which nonetheless were still manifest as I was conducting my fieldwork.

The project thus held different meanings in relation to each of these scales and the different social groups that disputed them. It is worth, from the outset, signalling a few of the most evident scales that the conflict around the project brought forth. Most immediately, the municipal level played a central role as the prime locus in which the contradiction between the simultaneous economic reliance on mass tourism and the ecological values of the municipal territory played out (see Chapter 5). This was a specific reality which not only the project had to deal with, but, as we have seen, also one in which local territorialities struggled to find their

place. On the regional level, on the other hand, the expansion of hydropower acquired particular political significance in relation to the deep roots of racial dynamics of subalternization and dispossession that have characterised the region since its constitution; relations that the expansive movement of hydropower was building upon, and that, both potentially and actually, constituted the basis of the ongoing oppositional political composition many of the local conflicts these transformations were bringing about. Also, related but not restricted to the dynamics at municipal level, and perhaps felt with most clarity locally, much of the project's local significance was to be understood in the context of the transformations faced by rural spaces such as Huife in their ever-deepening dimension of urban hinterlands, expressed both in the existential dilemmas faced by *campesino* communities, and the new layers of meaning and power casted upon these region by the rapidly evolving geographies of real estate speculation and tourism, which combined in a process of rural gentrification.

These different levels and relations, although densely interconnected, were rarely if ever expressed simultaneously and explicitly in their relations to the proposed project, and their geographically dispersed nature placed them beyond my capabilities to investigate them in any sufficient depth. However, during the time I spent in the field, there was one instance which offered a particularly privileged window into how these different dimensions of the conflict articulated, and in which several crucial aspects of the conflict were made unusually explicit. This instance shed important light on the matter, both for me and for many within the local community. On the 9th of April, at the request from the head of the Mapuche community in Llancalil and organised by the Neighbours' Council, representatives from the company behind the Llancalil project and the SEREMI of Energy[103] had agreed to visit the locality and hold an open public meeting. This meeting, in principle, had the objective of "address[ing] any doubts and concerns that people might have about the project", in the words of Werner Bergmann[104], one of the partners in the company behind the project, and its main promoter. The meeting would also have the presence of Pucón's Mayor, and representatives from the Unión Comunal Vecinal [Municipality's Neighbour's Union, which represented all Neighbours Councils], and the Consejo Ambiental de Pucón [Pucon's Municipal Environmental Council]. It took place on the Neighbours Council's gathering hall, which was a one-room cottage, located at the point where the meandering highway that comes from Pucón bifurcates into two unpaved roads that climb into

[103] SEREMI are the regional representations of national Ministries, in this case, the Energy Ministry.
[104] Some of the names in this chapter have been pseudonymised.

the Upper Huife and Llancalil valleys. The meeting, and the circumstances surrounding it, would cast into sharp relief several important aspects of the conflict.

In this chapter I will explore the different dimensions of the struggles that the Llancalil project had introduced in these valleys, and how it articulated with existing ones. I will do this through close reading of this meeting, analysed in the light of the more general perspective that my fieldwork as a whole would give me.

Prelude to the meeting

The day before the meeting we had finally got around to painting the two *coihue* planks Osvaldo had laying around in his backyard. It had been an idea that emerged from our meeting a few days ago where we had had a group discussion and analysis of local livelihoods, and attempted to make a collective map of the territory, among other things (see Chapter 5). "No a la hidroeléctrica", "Ríos Libres"[105], each one read; the idea was to mount one on top of the other by the paved road across the river, the one that connected Pucón with the nearby hot springs—the main tourist attraction in the area—through which most of the traffic went. After we wrote the message, my partner framed it with a river painted in different shades of blue. "Now that's more like it" said Osvaldo, "Let's go put them up". Just across the bridge before getting to the main road there was a plot that a local resident had donated to the local catholic church years ago to erect a small chapel, but was now semi-abandoned. It was in this plot, on the side facing the highway, that Osvaldo had planned to place the sign. We then made two holes in which we placed two three-meter-long wooden poles. The signs firmly nailed on the poles, they were indeed perfectly placed to receive all those coming the next day to the meeting from Pucón.

When the next morning we returned to the Millaqueo Millahual community's camping site, "La Araucaria", people had already started gathering around a wooden table placed right next to the calm flow of the Liucura River. Almost every member of the Millaqueo family seemed to be present, including branches of the family that lived in other places in the region, some of whom had made the two or three hour car drive from Lanco especially for the meeting. Sitting in a row of wooden chairs were the older members of the community, including Don Francisco Millaqueo, who, at 103 years of age, patiently waited for attendees to assemble.

[105] "No to the hydroelectric [plant]", "Free rivers".

Luis Hernán, the current president of the Millaqueo Millahual community, had called on everyone he had invited to gather here for a briefing before the meeting. Rodrigo Alvarez, the head of the Mapuche community in Llancalil who had been behind the organisation of the meeting, wanted to go over a few points that he thought were important, and on which he felt everyone should be on the same page. Cars began arriving from Pucón and other parts of the valley, bringing a variety of residents opposed to the project, a local leftist youth collective, and other friends of the Millaqueo family. Alvarez had a very specific aim in mind for the meeting. He started by explaining the importance of letting this meeting proceed, of letting the company speak, and not boycotting or disrupting it; a risk he appeared eager to contain in the midst of the signs and placards that many of those present were carrying. He then described the way in which the company had operated so far, which had mainly relied on dealing with members of the communities individually, in particular with those that were going to be most directly affected, or those who they needed to buy land or right of way from. He said that he thought it was crucial to expose the company to a collective discussion, "because individually the company wins, and will keep on winning. … So when we speak of community, we shall speak of one community, the human community of Huife-Llancalil". This emphasis Alvarez made already highlighted how in many ways the very notion of 'the community' was being produced and composed as a necessary moment in the process of struggle the project had introduced.

Alvarez had a clear tactical approach to the meeting. He explained that Werner Bergmann, one of the investors, would be presenting the project. The idea was that immediately after, during Q & A, someone would ask Bergmann about the acquisition of the project's water rights, and in particular how much had he paid for them—information that Pablo, a Pucón-based mapuche activist, friends of the Millaqueo family, had investigated previously—and how that compared to the offers he had made to some of the affected individually. This would then give cue to Alvarez's own presentation which would emphasise the comparatively vast amounts of money that other companies were paying for similar projects in contiguous municipalities, Melipeuco in particular; agreements of which he had even brought a copy. Following this, the representatives from the Ministry of Energy would present the mechanisms of mediation that the Ministry was deploying as part of their efforts to give projects like Llancalil, at the time proliferating in the region, what they would call "social validation", and attenuate their historical tendency towards conflictivity (see Chapter 3). As I will explain with more detail later, this general outline of the meeting reflected Alvarez's general outlook on the situation, which, as the meeting would show, diverged in many crucial respects from that of many of those that

would participate—a contrast that revealed important aspects of the challenges the conflict posed for the local community.

At this point the motley composition of those gathered gave a glimpse into some of the different territorial layers that the project was mobilizing. Starting by myself—who was introduced by Luis Hernán at the beginning saying that I was a student researching the social dimensions of the conflict—who had visited seasonally the valley since my early childhood, there were other young adults of presumably middle-class urban origins who now lived and worked in the Municipality that had got word of the meeting. For many of these people, the project threatened what they considered to be the region's main social and ecological values, particularly the rivers, which generally laid behind their decision to establish themselves there. Also present were, as I previously mentioned, the extended Millaqueo family, who had travelled from different places in the region specially for the meeting. Present as well were people born and raised in Pucón, some of them in representation of collectives and organisations, who also felt this project was at odds with the development they wanted for the Municipality, which hinged on the deeply ambivalent relation they had with tourism. Although many more people were to arrive at the meeting place directly, this gathering already gave a glimpse of the conflict's complex geography. In general the attendees would broadly fall within the three categories already represented at this gathering: members from the localities adjacent to the project and their extended families, politically active people from Pucón, and people of urban origins whose life projects were linked with the Municipal territory in different ways and to different extents.

After everyone had been briefed, we all got into the different cars and took the five minute ride to where the meeting was to be held. Upon arrival, the members of a Pucón leftist collective made up mostly of young people and local students quickly began pasting banners and signs outside the entrance and in the room's walls: "No to the Llancalil hydropower project", "Gloria Marcos, municipal secretary, you stole our rivers to sell them, thief", "Water and life, our rivers are not commodities", "Huife and Llancalil without the Hydroelectric [plant]".

Figure 25. Placards and posters outside meeting hall. Taken by the author.

Many of those filling the hall where from the communities and families in the immediate vicinity. Nevertheless, as I mentioned above, it was clear that those that considered themselves to be affected in one way or another by the project greatly exceeded both categories. In addition to the various diasporic or mobile members of the extended families currently living in the adjacent localities—especially those younger members working and/or studying in nearby towns—, present in the room were people ranging from social activists, leaders, and just concerned dwellers from the town of Pucón, students working on nearby conservation projects and restaurants, and a number of people of urban origins that had bought small plots in the valleys.

The meeting

The room was arranged with several rows of chairs facing a table at the front. There sat the head of the Neighbour's Council, Guillermina, the company representative, Werner Bergmann, the two representatives from the Ministry of Energy, and Alvarez.

Guillermina briefly presented those sitting in the panel, after which Alvarez introduced the purpose of the meeting. He first explained that there was a pressing need to hold "an open, public, meeting with the company", with the aim of dispelling any rumours, the recent proliferation of which did the community no good. He said that the initiative had come from a

discussion that Alvarez had had with Bergmann back in Temuco[106], in the presence of Laura, one of the representatives of the Ministry of Energy, who was in charge of citizen participation mechanisms in the region, and sitting on the panel. Alvarez then presented the rationale behind holding this meeting:

> We talked about the project, and I said: you know what, the project is not being carried out in a correct way, you are not doing things right. It is like having someone eating at one's house, and not knowing who they are, or what they want. … So I told him that the first thing that needs to be done is to present the project to the community as a whole, that's what's correct, whether one likes it or not. The first thing one must do, Mr. Bergmann, is say: this is who I am, these are my intentions, this is what I want to do here, this is my proposal. … The project is being advanced, it is intervening in the families and houses of each one of us. But we don't know, and that has generated a series of rumours, of differences, of situations. 'It is a project that has no impact', Mr. Bergmann told me. And I told him immediately... the project has not even started and it is already having an impact, because it has us all divided, rumoured, and interpellated. That this one compromised here, that that one dealt there, that this one didn't… that is an impact, here and anywhere. … So I invite you all neighbours of this community, the community of Huife-Llancalil—which is one community, all of us who are part of the waters—to listen to Mr. Bergmann's presentation, to get to know the project, to meet him, I ask for your respect. … This is done with the presence of the SEREMI of Energy, which tells of the changes that have been done within that Ministry. Before it was just coming and grabbing. Now there are certain standards, certain minimum requirements for investment projects. And it is in that context that the Ministry is participating, and we are talking about getting the project to meet those minimum requirements.

Alvarez's reference to basic norms of recognition— "Like having someone eating at one's house, and not knowing who they are"—framed the conflict from the outset as one emerging from the complete neglect and lack of recognition the company had so far shown had for the communal dimension of the territory in which they had been operating, ie. the lack of any concern for the waterscape as a commons, and of families as constituting a community. Issue which far from having being resolved by the company's method of negotiating private arrangements with isolated families, had been in fact been aggravated by it, as it had introduced rumours, mistrust, and misinformation. Indeed, one of the very first impacts I had encountered in my fieldwork had been the reported squabbles among family members as the company apparently played them against each other, by, for instance, saying that one of them had come to an agreement, when

[106] The region's capital, where Alvarez resided.

this was not the case. This had apparently happened all too frequently, which also told of the lack of effective spaces locally available for collective communication and deliberation. The problem introduced by the company's operations in the territory revealed thus that while communal relations existed—indeed where being severely impacted—, they lacked effective political form. In this sense, for Alvarez, the meeting was crucial for going beyond the current situation of atomization that the company was exploiting, and creating the conditions for representing and negotiating the community's interests, which were not only not represented in the sort private dealings that had been carried out, but in fact directly undermined by them. This understanding would open into several cleavages as the meeting progressed.

After Alvarez's introduction Werner Bergmann started his presentation. In a fluent yet heavily accented Spanish, he said that his main concern was to clear up any doubts that there might be about the project. He briefly described the project, how it would work, its location, where it would extract water, and where it would release it. He then turned to several particular concerns he had heard about the project,

> One concern I have heard is that of the flooding of large areas. This is not the case with this project. There will be small areas where the water will be captured, where the level will rise probably a meter or a meter and a half at most, inundating something like half a football field.. … Another issue we had heard, was about the fish and the river fauna. … What happens there is that there is a process of environmental assessment of the rivers, where it is determined how much water must remain in the river... so the river will never go dry … Another concern was that the springs might dry up, that water will run out, all of this is not the case. First, all of the water taken by the project will be returned to the river, and second, … the springs are from underground waters, while the river's waters are in the surface. … Regarding the visual impact, …. the mayor point where this will be an issue is on the machine room, which will be up there in Huife, in front of where the school was, the one that was closed last year. We are proposing there a visual barrier. Another concern was the noise. We made several studies … the noise is within the room, outside if you are further than a hundred meters, there will be no noise, only the normal environment noise. Another concern we heard is that the fields might get obstructed, that animals will not be able to pass, or people won't be able to walk through. This is why we made the decision to lay the pipes underground. … So these are the concerns we have heard from the neighbours, and how we have incorporated them in the design that is now under evaluation. …

He finally explained that the project is currently under evaluation, and that although they "wanted to design a project that has the least impact as it is possible … This is not to say that it will not have an impact". Bergmann's intervention ended as the tension of the piling imminent

questions was noticeable among those present. The first evident difference with Alvarez's framing of the meeting, was that there was no sense of Bergmann presenting a proposal to a community that actually had the possibility of making a consequential decision over the matter. This would, of course, have implied explaining what benefits the project might potentially have for the community, an issue conspicuously and completely absent from Bergmann's intervention. In contrast, Bergmann limited his presentation to assuring the community that the project would have no significant impact—a hard pitch, to say the least.

The first one to speak was Guillermina, who said that she didn't understand how the river was not to dry if they took water from it, considering the very low level it has during summer months. Bergmann responded that the ecological flow—ie. the amount of water to be left on the river without doing any serious environmental or social damage—had been established in the design. This led Pablo, the Mapuche activist from Pucón, to ask whether there were any real historical studies behind the determination of the ecological flow of the river, "because the concern raised by the neighbour here, who has lived her whole life in this territory, is a very valid concern. And here most of the older neighbours know which is the history of the river".

Guillermina then compounded Pablo's observation,

> Many years ago, in front of my house … during the floods, the river reached the very same street you came through to get here. … Now you can see the stones in the riverbed, that says it all. Because a person that has never lived here cannot come and tell us [that the river is not carrying increasingly less water] to those of us that have lived our whole lives here, and like me, all the neighbours here present.

To this Bergmann responded that one of the good things about this river is that it happens to have a measuring station some miles downriver, which has been in place for several decades. This station, according to Bergmann, shows that from the early seventies onwards, on average, there has been no clear trend towards less water in the river. This, he said, excluding the last few years, which have been extraordinarily dry. For Bergmann this meant that there were no real grounds for making any predictions regarding the river flow in the future.

Luis Hernán, the president of the Millaqueo Millahual community, questioned the validity of this data on the grounds that the station is located several miles downriver from the community, it receives water from other sub-catchments, and that it contradicts the local knowledge of the rivers, the affirmation of which had become the underlying theme of the

interventions so far. “These are the numbers from the DGA, I am not making this up”, Bergmann responded, to the general expressions of scepticism from those present. “There’s no more water upriver, you can be sure of that, because those are snow-melt waters, and now there is no snow on the mountains”, heckled Marta, an elder female resident of upper Huife.

Scepticism that, as it turns out, was well placed. Although apparently no one present at the meeting had consulted this at the time, data from the Liucura station is publicly available, and upon some simple analysis it clearly shows a downward tendency in the Liucura’s river flow over the last decades (see Image 1); tendency that validates local perceptions on the matter, and casts doubt on either the good faith with which the company was engaging the community at the time, or the quality of the information it was operating with.

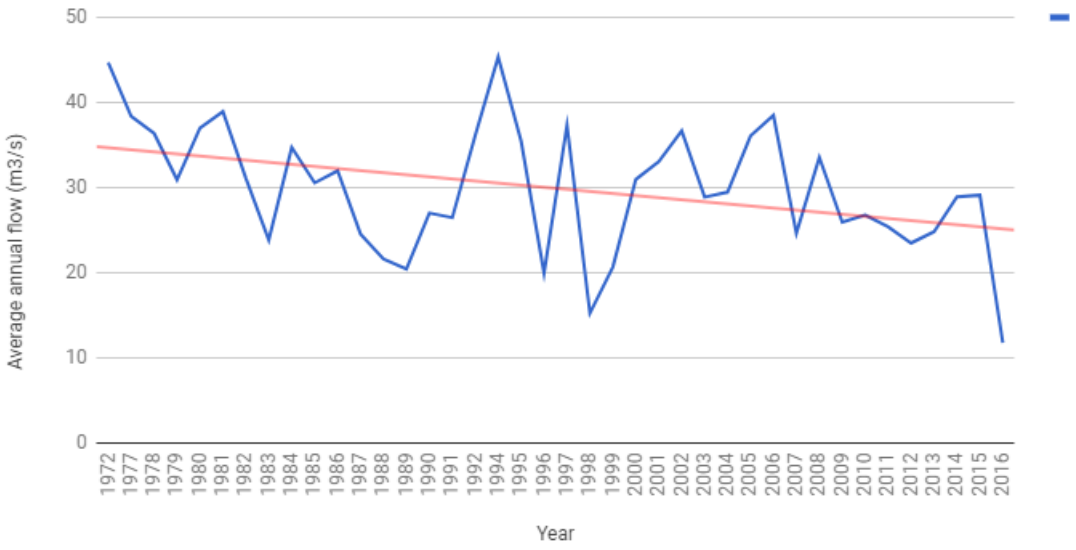

Figure 26. This chart shows the annual average flow of all of those years for which there are more than eight months of data, until 2016, when the fieldwork took place. As it is clear, the Liucura river flow has indeed been tendentially diminishing since there is data available, trend that has only intensified during the past few years of the ‘super-drought’. Made by author with data taken from the DGA (Dirección General de Aguas n.d.), available at: http://www.dga.cl/servicioshidrometeorologicos/Paginas/default.aspx

This clash between what Bergmann presented as fact and what was held by the community to be incontrovertible established a sense of mistrust and generalised uncertainty. This was further illustrated, for instance, when, after the exchange related above, I asked a question about whether the project had incorporated into its design projections of climate change and its impacts on the river. In response to this Bergmann reiterated that there are no grounds to make claims of any certainty about the future degradation of the river’s flow, and that, if anything, the

available information he had cited of the monitoring station on the river suggests no reason to think upper watersheds such as these would show very significant modifications. Before I could question further this claim—which seemed for me bizarre, to say the least—Bergmann was again cut off by heckles insisting on the fact that for the inhabitants they were clear about the tendencies of the river, while others said that it was precisely the many uncertainties that were emerging which constituted more than enough grounds for the project's rejection. As the meeting progressed, this sort of clashes led to an increasing polarisation and entrenchment, as people tended to question the validity of the data presented by Bergmann, highlighting that it was the company who had paid for the studies in the first place. For Bergmann, uncertainties about the future were wielded as reasons against opposing the project, while for many of his interlocutors these were interpreted in the precise inverse sense.

All of this expressed a deeper dynamic that would resurface in various ways throughout the meeting. Up to this point the discussion had remained within the framework set up by Bergmann at the outset. For him, this meeting was primarily about "solving any doubts or misconceptions about the project", an idea he would remark more than once. Of course, this understanding of the situation implied a couple of important assumptions. At one level, it posited from the outset a hierarchical ordering knowledge: the concerns of his interlocutors were, in Bergmann's understanding, reduced to misconceptions and lack of correct information—in a word, ignorance—which he was there to resolve. Consequently, interventions had been primarily structured either as questions for Bergmann, or as contestations over what were presented as matters of fact. On another, perhaps deeper level, this understanding expressed the terms in which these sorts of conflicts tend to be processed within the current institutional framework—namely, how, from the outset, the discussion was framed around an understanding of matters of *fact* that precluded any substantive discussion over issues of *value* in relation to which any transformations effected upon the landscape were to be judged as being acceptable or not. The question around which Bergmann had placed the conversation seemed to be what the precise impact of the project would be—a question inherently surrounded by uncertainty, and under the current conditions, mistrust—rather than a conversation about what exactly was to constitute an unacceptable impact, and the desirability of the project, a conversation that, although implied in Alvarez's presentation, seemed to be foreclosed up to that point. And it were these the issues that, as most of the interventions would make manifest, were really at the heart of the matter, and to which those present at the meeting would shift the discussion.

Territory, and the affirmation of value as fact

After these exchanges, some well-known persons from the community made their interventions. First was Ruth, a seasoned nun that at the time lived in Pichare, but who had grown up in upper Huife, and whose voice was locally held in very high esteem.

> I am old already … but think of your children, what are they going to live off tomorrow, are they going to migrate too to the big cities, and leave our territories abandoned? No sir. We old folks and young have to wake up and become aware that this is our heritage, that our forebears settled these lands, a long time back, I'm talking around 1914, that the old folks came here. So, we need to defend tooth and nail [con uñas y carne], this most beautiful thing in the municipality of Pucón, and I give thanks to the Mayor here present, because he's always supporting us on this, because he knows that his people here in the municipality and whatever projections they have of a quality of life is because of tourism. And look, I worked in the hot springs just over here, and one day I carried out a poll myself, from 6pm to midnight, asking from which countries people were coming, and there were 47 countries! So, dear citizens of Pucón, we say no to these run-of-the-river plants, let's defend our resources, in the name of the future, our children, and our grandchildren.

Ruth's words were received with cheers by most of those present. Notably, her intervention stepped out of the dynamic that the meeting had followed until then: she didn't address any question to Bergmann, a form of engagement that was reproducing the hierarchical ordering of knowledge related above. She instead stated a clear position and a value judgement that managed to skillfully and succinctly capture many of the anxieties surrounding the general historical movement of rural territorialities such as Huife's—the migration to the cities of younger generations facing lack of a viable future on their lands, an erosion of the community's future that is experienced at the same time as an erosion of the relation to its past—and connected this directly to what was a play in the meeting. She referenced possible alternative futures that connected these values rooted in the community's relation to the land, to those that the territory had acquired within the global geographies of tourism that the municipality as a whole lived from[107]. Her public gesture to the Mayor, on the other hand, seemed to me to bear a clear strategic intent: she put him on the spot by placing him from the outset on the side of what she had already presented as the unambiguous interest of the community (and indeed the whole Municipality), thus forcing him out of any neutrality or ambivalence he might had

[107] A relation that is, of course, marked by deep ambivalences. See Chapter 5.

intended to maintain throughout the meeting. This was at the time all the more evident for me, as in conversations I had previously had with her and others, the position of the Mayor was considered to be more than a little ambiguous, in particular due to the role played in the whole problem of water rights by the municipal secretary; an issue that would resurface later on.

Ruth's intervention opened up this different mode of engagement of the community with the meeting; one in which the point became the articulation and assertion of a collective position and judgement of the project. After her, Osvaldo Ibarra, the well-known and respected 84-year-old second generation Chilean settler, who had married into the Millaqueo family in lower Huife, addressed the meeting. He, like Ruth, did not address Bergmann, but the meeting as a whole:

> I, in representation of the La Araucaria agro-camping, have been talking about this with the many people that visit these parts. And the foreigners, they all encourage us to stand together, be united and defend our lands and our waters. Because here we have forests absent in other regions, we still have waters to wash our feet *campesino* style [*lavarnos las patas al estilo campesino*], clean waters to bathe ourselves. And with the hydropower plant even the rivers are going to dry up, the hummingbirds will have to die, because they nest where there is water, and like them all sorts of species, birds and fish, and native insects. And Chile's history, here there are indigenous communities that have come fleeing from around Padre Las Casas, Temuco, el Manzanal [voice cracks], and all those peoples came running here. And I say this because my family is Mapuche, and I work with a camping on the banks of the Liucura River, and with a hydropower plant, farewell to the camping, and all neighbours who have a riverside plot, they are going to see it dry up. And that is what I can declare.

Osvaldo's voice had almost broken down by the end of his intervention, which was ultimately drowned in the *afafan*[108] of those present. He managed to convey as few others the emotional and affective layers at stake in the discussion; the cracking of his voice as he told the story of what had become his Mapuche family brought forth a dimension of the situation in which the kind of argumentative move previously deployed by Bergmann—through which value judgments were interpreted as factual misinformation—was difficult to sustain. In a similar fashion to Ruth's, his intervention placed emphasis on the ecological and historical value of these lands, and the value of the *campesino* way of life. He stressed how these human dimensions of the territory were also valued by the 'foreigners' who visited these lands, relation that for many in the community constitutes a viable basis for an alternative projection of their

[108] *Afafan* is a characteristic mapuche cheer/battle cry.

territorialities into the future through locally managed tourism, exemplified here by his camping site. The hydropower plant for him implied the risk of destroying all that, and dishonoring what people felt the past—or more precisely, their relation to their forebears—compelled (see Chapter 4), and precluding the possibilities their lands might still hold in the context of an otherwise adverse future.

After these two interventions, Bergmann assumed a more cautious tone in his responses. In response to Osvaldo, he reiterated that his worries, although comprehensible, were misplaced, as "the river will not be affected… and the whole idea is to generate local development"—to which Osvaldo interjected, "I have a hard time believing that sir, I am eighty-four years old, and know that story. … development for the company you mean". Here Osvaldo made evident the crucial aspect of the situation that the framing Bergmann had previously established was obfuscating. At stake was not a simple factual dispute over the precise extent of the affectation of the river, but rather precisely an issue of standpoint—development for whom, destruction for whom, what constitutes an 'acceptable' impact—expressed through the different registers of value mediating the relation to the land and the projected infrastructure. What the conception of fact divorced from value Bergmann had tried to establish failed to grasp, is how humans relations of value, as simultaneously material—ie. practical—and symbolic forms, are inextricable from the ecological facticity of the landscape (see Chapter 2). Local valuations were not being recognized by Bergmann as practical, and therefore ecological, relations, but as ideal misconceptions bearing no constitutive relation to the local ecological reality. The force of Ruth and Osvaldo's interventions rested precisely on the extent to which they muddled the distinction.

Water, legitimacy, and the Municipality

At this point Alvarez intervened to redirect the conversation towards the issue of the acquisition of water rights. He began by reiterating that what people expect here is for things to be done in a correct way, "like a person" [*como la gente*], which the company had so far failed to do. "Why is the project being done here? Why not in Germany? After all, none of us are going to Germany to make a hydropower plant", Alvarez asked Bergmann, who limited his response to a reference to the physical geography of the valleys, and how plants like these depend on places where there are both "water and gradient" [*agua y caída*], and that Germany apparently lacked those suitable conditions.

"Water and gradient then", Alvarez continued, now addressing the meeting generally, "The waters and the gradient of Llancalil-Huife, of the people, of all of you here. Someone from outside comes here and grabs that water and gradient, what about that? Why is that? How?" The way in which water rights had been acquired was known by most of those present, and was widely considered by local residents to be illegitimate, even bordering on theft (see Chapter 6). Nevertheless, up until then there had been no local instances in which this general feeling could be surfaced and explicitly articulated collectively; even less in presence of the Mayor, who many held accountable as well. Now that this simmering issue had been brought forth, many of the present smelled blood. Interventions would become more intense and relentless, if still orderly.

— "Who gives you the right over those waters?", asked Nery, Osvaldo's daughter.

— "The Mayor must know!" a voice from the back commented.

— "What happens is that water is a public good…" Bergmann replied, and immediately provoqued a wave of boos and derisive laughter, "Look, that's what the law establishes... The state gives the rights to use water. And that's a right we have now, to do this".

— "We understand that you negotiated with a private person", said Luis Hernán, the head of the Millaqueo Millahual community.

— "We bought the waters from someone—"

— "Who!", several voices interjected in disorganized unison.

— "Someone with the surname of Marcos".

— "And who is she?", asked Pablo disingenuously, turning to the meeting, "Does anyone know them? Did you buy those rights from someone from here?"

Up to this point, Alvarez plan—which he had previously explained in La Araucaria camping site—to corner Bergmann on the issue of water rights was proceeding smoothly. Before Bergmann could answer, however, Jorge, a resident of upper Huife who had not been at the previous meeting in La Araucaria, suddenly intervened in forceful and loud voice:

— "What happened is that those rights were acquired by Gloria Marcos, the Mayor's secretary, and the Mayor turned a blind eye so that all of this could happen".

The comment immediately filled the hall with a general murmur, quickly followed by wave of applause by most of those present. Before the applause was over, the Mayor had stood up, and said, in an outraged tone,

— “But how can you say such a stupidity, please! Measure your words. She’s the Municipal secretary, not mine. And how could I turn a blind eye if she did this who knows how many years back”.

— “Here everything is known Mayor”, interjected a woman from upper Huife.

— “Now with this you touched the friendship we have, I cannot answer for other people. Because they are citizens and have the same rights as anyone else, and I didn’t help her sign or solicit anything”.

— “You had said at some point that this municipality had the waters secured”, replied Jorge, “how did you let this happen?”

— “How am I going to let anything happen, water rights are not given by the municipality, it is not I who gives them, it is the DGA”.

— “But you could have done something else, say, you know what, I am going to put you somewhere else, bye-bye secretary.”

— “But what do you mean bye-bye secretary, public functionaries—look, I’m not going to accept this, it's thoroughly wrong, I respect you, but you are wrong Jorge, do not involve me on this matter. I will tell you the story”.

— “How could you not know what the secretary is doing?”—asked another woman from upper Huife.

— “You know”, the Mayor started, “what was my responsibility during my first years as Mayor, I envisioned, say I support tourism, Mr. Osvaldo here, when he was just setting up his camping site. What did I say to him? Let’s do this here … lets see how we can get that bridge done [the one connecting lower Huife to the main road on the south side of the Liucura river], the river walls built. … Because the Municipality applied for all of the water rights that hadn’t been allocated, to be used for tourism”.

— “To deal in them”, Osvaldo interjected, followed by some laughter.

At this point Alvarez intervened, saying that the discussion was deviating from the main topic at hand. Drawing on a popular saying, Alvarez said that "muddled waters only benefit fishermen, and we all know who's the one doing the fishing here", and insisted that people should avoid quick judgement. Nevertheless, many voices insisted in that it was important to address these things, even if only to make the Mayor's position on the project clear. To this the Mayor swiftly answered that his position, in representation of the Municipality, had already been established in a public council meeting, and was that of a clear rejection of all hydropower plants in the Municipality. The hall cheered, and the Mayor continued, "that is my position. But I can't be looking into other people's brains, who might be getting water rights who knows how".

Of course, the initial aim of Alvarez in introducing the discussion on water rights was to force Bergmann to make his dealings explicit, in particular forcing him to disclose the presumably large amounts of money paid to someone from outside of the community for the rights over the waters that flowed through the community's lands, and in this way position the community on a better standing for any discussion on compensation. Alvarez's opening question—"the waters and the gradient of Llancalil-Huife, of the people, of all of you here. Someone from outside comes here and grabs that water and gradient, what about that? Why is that? How?"—is framing the issue in what in the previous chapter I called the moral economy in which the waterscape is embedded, and placing the discussion of Bergmann's acquisition of rights against that backdrop of illegitimacy. Bergmann, of course, tries to reduce the issue of legitimacy to that of legality by immediately referring to the law; interestingly, justifying and grounding his private appropriation of the rivers in the legal definition of waters as 'a public good'—ie. the ultimate authority of the state in the granting of water rights.

Bergmann's reference here alluded this crucial condition, explored in more detail in the previous chapter, the significance of which was made even more explicit in the ensuing direction the conversation had taken—namely, how the commodification of water rights had been a process mediated by the community's relations to the state, and the local municipal government in particular. This is a relation characterised, as in many rural communities in Chile and Latin America, by a strong component of clientelism by which public resources and/or services are accessed in exchange for political support to a patron positioned within the structure of political power (Landini 2013). In a way similar to the case of water explored in the previous chapter, at the municipal level—the most immediate and important interface through which the local community relates to the state—this is a relation that takes place through networks of personal

acquaintance ultimately regulated by and rooted in local moral conceptions of reciprocity; a fact long noted by anthropologists looking at clientelist political forms in similar settings (*Ibid*.).

This dimension of the local articulation of state power, and how it had been impacted by the whole conflict, was clearly brought forth in this exchange. By that time, I had consistently run into all sort of rumours around this issue that expressed the uncertainty—many times infused with a good dose of cynicism—that many had regarding the Mayor's position on the project, and the extent into which he had been involved in dealing with the river's water rights. This occasion was in all probability the first time in which this long-brewing underground local sentiment—what Scott (1990) famously called a hidden transcript—had been openly and publicly expressed, a fact that gave Jorge's intervention much of its force and resonance among those present. Interestingly, and in sharp contrast to Bergmann, the Mayor had a very clear understanding that his local political standing depended not on whether the whole issue of water rights was 'legal', but how the situation beared upon the moral underpinnings that sustained his clientelist network of support. This was what Jorge's accusation was putting into question. This is why, when defending himself, the Mayor was quick to reference how *he* had supported Osvaldo and the Millaqueo Millahual community, by securing access to public funds for the camping site and infrastructure—something not directly related to his knowledge or involvement in the dealings of the municipal secretary of which he was being accused, but which nonetheless seeked to reassert his commitment to the implicit expectations that underpin the clientelist basis of municipal power.

After this exchange, representatives from two of the main official municipal organisations, the Neighbours Comunal Union [Union Comunal Vecinal]—which represented the totality of the Municipality's Neighbours Councils—, and the Environmental Comunal Union [Union Comunal Ambiental]—a Municipal institution in which citizens' concerns around environmental issues are represented—, addressed the meeting, interventions that further expressed the way the project was relating to the Municipal scale. The head of the Neighbours Comunal Union said that he had met with the company once before, and that he had made the opposition of the Comunal Union and of the community he represented very clear. He turned to the meeting and asked, "who is in favour [of the project], please raise your hands", which no one did. He proceeded,

> Ok, so if no one is in favour, I suspect we are losing our time here. But what do we have to do now? … We represent 24 Neighbours Councils ... and Huife's Council asked us to come and support them. I was thinking before I arrived that if there was any division within the

> community in this regard I wouldn't even speak. … But there seems to be unanimity: no to the run-of-the-river plant. … I want to say here before the neighbours that the state has a huge responsibility in this, it opens the door for this, does all these tricks, and leaves the conflict to the neighbours. The Mr. here, who might have his money, and saw an opportunity to invest, does not have much of a responsibility in this sense. Unfortunately, this will not be possible here. … I know for a fact, because I was in the meetings …, that the Municipality had promised to oppose all [hydropower] plants. Independently of all these tricks they use, saying that the river won't dry up, no. I am very clear on this, eleven years ago … there was a drought and there was no water anywhere. … When here it is lightly said that nothing will happen, no, it will. Now in Caburgua there are no floods, there are no big winds. There a none, not any more, none. The water that you see is what is left. … We can see it in the Caburgua Lake, before that lake filled up with water, now it doesn't, and the rivers even worse yet. … So, if there is an opposition of the whole community, plus we who come to support as Comunal Union representing the whole Municipality, that we are seeing this problem elsewhere, here it will not be possible to build the plant, no more tricks. I asked before, yes or no, and I for my part say, no. Neighbours, no.

Immediately the hall filled with voices repeating "no!", followed by applauses. The president of the Environmental Comunal Union, then very briefly intervened placing this project alongside other sorts of projects the Union had opposed in the past, "like other plants, fish farms, and all of that".

The concerns that both interventions expressed around the tendential erosion of the waterscape at the municipal scale echoed those at the local level, described in the previous chapter, and reasserted the local perceptions Bergmann had repeatedly dismissed. Indeed, these tendencies were at the time being dramatically illustrated by the unprecedentedly low water levels of the Caburgua lake—one of the Municipality's main tourist attractions—, which had not yet reverted even as the autumn was settling in[109]. These tendencies of ecological degradation and the anxieties they caused expressed for local inhabitants not only overpowering shifts in the climate, but also very clearly what is perhaps the crucial socioecological contradiction shaping environmental politics at the Municipal level: namely, its overbearing reliance on mass tourism, which simultaneously depended on and eroded the Municipality's ecological conditions. The interventions brought to the fore how the project

[109] This situation has not changed to the date, and the Municipality has called for research to be done on the causes. See: (Tele13 2017) http://www.t13.cl/videos/nacional/video-misterio-sequia-lago-caburga

related to this crucial condition, and why it was unlikely to gather any collective support at the Municipal level.

Compensation, value, and territory

After these interventions, Pablo, the mapuche activist from Pucón, took the floor and picked up once more the discussion on water rights, which he said was fundamental because "without those rights the project would not be possible". Pablo questioned the legitimacy of the legal conditions that had allowed Bergmann to acquire the water rights without the community having any say on it: "That's allowed by the law, which is the Water Code, that was passed in the eighties, when we were under the dictatorship. Therefore none of us had even the possibility of opposing to how something so vital to life, water, is to be had". He then asked Bergmann how much had the rights costed.

— "I don't have an exact number at the moment. But if you want to see, it is there in the real estate register, there are all the titles, I'll look for that information if you like", Bergmann responded.

— "Excuse me Mr. Bergmann", said Pablo, turning to the meeting, "does any of the neighbours here, who work in the countryside, when you sell an animal, don't know how much you were paid?", laughter filled the room, as Pablo turned back to Bergmann, "… Why aren't you able to tell the community how much did you pay for the water rights?"

— "To gather some coins ourselves, and buy them back", interjected Ruth, again prompting general laughter.

— "That is not hidden information, it is public".

— "Then say it!", several voices in the room replied.

— "I don't want to say something inexact".

— "I am sorry neighbours, but it is my understanding that we're talking about 2 to 4 billion pesos. Has any of you, of that money, received a single peso for these waters?"

— "No one!", came the quick general reply.

— “Someone from outside this territory, that comes here, appropriates your waters, and gets paid over two billion pesos. Over two billion pesos! … this situation we are living today, and that we will keep on living, because we have lived it already, we have lived it in the Bio-Bío[110], just go see what the hydropower plant has produced in the Bio-Bío”.

— “Death! Only death!”, a couple of voices shouted.

— “Is this the development we want for Pucón?”, Pablo asked, facing the meeting.

— “No!”, the answer came.

— “We are living in peace here, and we will keep on living this way and paying attention to our future generations. So Mr. Bergmann ... we do not want this life nor this development, this is not development, this is growth. Development is something integral… where I can develop as a human being. But this is growth, in which one person pockets all the money and the rest of us suffer the consequences. … So neighbours, no one has received one peso of the billions Bergmann gave to just one person”.

This exchange is worth reproducing as it foregrounded two important aspects at play in the situation. Pablo here not only made Bergmann look dishonest as he failed to immediately answer the question about the cost of the water rights, but also introduced the regional dimension when he framed the project within the broader regional memory of similar processes in which there had been a complete dispossession of communities. This was in turn the basis for contesting the conceptions of development the project hinged upon. Nevertheless, by turning the conversation onto the amount of money—which, upon checking, Bergmann confirmed to be 250 million pesos, which although still a large sum, was considerably less than the number given by Pablo—Pablo would open up an issue that would reveal some of the important tensions the situation introduced for the community. Indeed, just as Pablo finished his intervention by saying that no one had received one peso of the money Bergmann had paid, a young female student who at the time worked in a restaurant and conservation project in Pichares interjected: “Ok, but money is not what is important here”. This would be the crucial aspect that would become even more salient in the ensuing presentation by Alvarez, and dominate the meeting thereafter.

[110] Pablo here is referencing the emblematic Ralco dam, that was the focus of a very high-profile conflict between the Pehuenche people and the central government, which can be said to have established many of the basic parameters for similar conflicts between indigenous communities and the Chilean state during the post-dictatorship period. See Chapter 3.

After this exchange, it was turn for Alvarez to give the presentation he had prepared. He opened by asking the question, "what *is* a [hydropower] plant?", and letting it linger for a brief moment. He continued, "we arrived at the conclusion that a plant is a money factory. … What gets installed is a machine that makes money, and it will get installed here", Alvarez said pointing to a PowerPoint slide showing a pile of cash. He continued, "how does this generate cash? By making use of water". Alvarez then proceeded to describe the project, how it draws water from the river, entubes it, and puts it into the generator—"to generate what? Money". Many nodded as Alvarez stressed the point: "There is no other reason behind the installation of this central, it is cash. Do you think he needs to light his home, or yours for that matter, or Pucón? This is the purpose, this is honesty, this is transparency. This is what you should have said", Alvarez said turning to Bergmann, "'I come here to make money'". As Alvarez completed this sentence, a loud applause followed by an *afafan* filled the room.

When the cheers subsided, Alvarez proceeded, "... And this is what is going on with all the projects in this region, and all the investors have had different ways of behaving and relating to people. Some arrive right away talking to people, from the first day. And there are some that talk about compensation measures, and they pay, and here I have a contract showing how much they pay." He went to the desk in the front of the room and picked up the document, "I will do the comparison to how much you are receiving". Alvarez then asked, "So, what comes next?" as he clicked on the computer keyboard to show a powerpoint slide with a cartoon of someone carrying a huge bag of money while others watched and scratched their heads in disorientation. As laughter filled the room, he continued," that is what comes next … that money generated here with the water of the Llancalil and Huife rivers, that's how it gets distributed. Mr Bergmann and his associate, strength fails them to carry so much", Alvarez quipped, "... And those others are the *peñis*[111] in Huife, and all of us up here, wondering, well what the hell happened? ... And people will be left wondering, when was it that we got screwed? When was it that we didn't open our eyes?"

After a brief pause, Alvarez asked rhetorically, in a comical tone, "the question is the following: what do you make of this project? Do you think it is a fair deal?" The whole room then shouted in unison "No!". Alvarez continued,

— "Should this kind of business be done?"

[111] Term meaning 'brother' in mapuzungun, commonly used among Mapuche people as a way of acknowledging mutual ethnic belonging.

— “No!” everyone shouted again.

— “Is correct and fair the distribution of the money that would be produced in Huife and Llancalil?”

— “No!”

— “In case this project is built, how do you think the money generated by it should be distributed?”

Here, a general murmur followed. One person quickly replied, “It should not be built at all!”, which was rapidly followed by others saying, “we don’t want your money!”, “we are not interested in his money!”. Here the main point of division within what had up to that point appeared as the homogenous block of ‘the community’ surfaced, and would be soon become increasingly evident as Alvarez approached his conclusions.

Alvarez proceeded, “It is true, there is talk of energy and the like, but what’s going on is this: they take the water, they build their money factory, and what is generated in money. And that money goes away.” Alvarez turned to the Mayor, in an emphatic tone, “Mr. Mayor, that money goes away. It doesn’t stay in the municipality, it is not taxed here, nothing. … Brothers, sisters, this is the problem, this is the point”. Alvarez then turned to Bergmann, and said, “I want you to understand Mr. Bergmann... you could have done things transparently and honestly, that is why people do not want this project. If you came here with a different culture … who knows, maybe things would change. Right? Because, as I told you before, the territory and the waters belong to the Huife community as a whole, independently of this legal subterfuge. … And it is on them that all the damage and the effects of the project will fall. We don’t know how much it will be, but it will be suffered by the people here, not by the person who received the two-hundred and fifty million pesos. She will not face any damage”.

Up to this point Alvarez’s presentation had successfully interpreted the general outlook of those present—namely, that this project was a money-making operation that was taking place at everyone else’s expense. Nevertheless as Alvarez proceeded considerable discomfort was building up among many in the audience. Alvarez moved towards his conclusion, “so when you come, and you start talking individually to each person … offering two, three million… that is why we did this, because the amount of money that this generates is not for you to offer some family one or four million. This is not the first nor the only company, there are other companies operating in the region that have different ways of doing these projects. There are companies that are proposing associativity, there are companies that are offering percentages, and there

are companies that are paying too. And I brought a contract to show to you that I am not lying. Because as he said, the information is public…".

Before Alvarez delved into the details, Guillermina, the head of the Neighbours Council, suddenly interrupted, and said "Let's not get excited with this stack of bills we see here", pointing at the powerpoint slide Alvarez had left hanging from his presentation, "because they are not ours, they are not of this land, they are not from the people that have been born and raised here".

Alvarez continued, showing the contract, "look, before a notary, here are the signatures—"

"Not even one peso", Guillermina resumed, "even if they offer, let's not sell ourselves out, dear neighbours".

Alvarez picked up again, "I can show you, because there are some that have already received money, so that you know. Here it says, … 'the company will pay … the sum total of 180 million pesos. Plus two million and a half, to each of the families during five consecutive years'. In exchange for what? … Right of way, almost 500 million pesos… and here to you, you have been offered two million pesos." Alvarez scoffed, and finished addressing Bergmann, "Please, there are different ways".

The same student that had previously interjected, repeated her point once more: "Yes, but this is not about money". As many murmured in approval of this, a middle aged doctor originary from Santiago, who had bought land nearby, compounded these remarks and intervened. "Yes, but you know what? I think it is important to make a declaration of principles here. … It seems to me that we cannot shift sides, we either have one consciousness or we have the other, and it doesn't matter if they leave here more money or they don't. We are not interested in money", he said as others commented in support, "we have to line up with one thing, and on top of that, when money is offered the communities are divided. Which is what is happening. … We shouldn't even be asking questions like, 'so where will this transmission line go through?', no, we must not give that space". The intervention ended in applause, as hands raised up to intervene; most of which reiterated and emphasized the idea that the point of this meeting was to make it clear the collective opposition to the project and nothing else.

Bergmann then took the floor, trying to, hopelessly, reframe the situation back in the terms he had initially explained: "Like we said before, this meeting is not for these purposes. This meeting is to clear up doubts, so that you can make up your own mind." The reply, in the voice of Fernando, a young man who lived in Pichares and was descended from the Goeppinger

family in Llanclail, was quick: “Our minds are made up, this meeting is to tell you ‘No’, that’s the truth. … and we are going to use whatever means necessary to say no”; to which a young woman also from Pichares quickly compounded, “and we are many”.

This exchange revealed one of the central cleavages that the project had opened within the community; namely, whether the struggle was to be confronted as being primarily an issue of the distribution of the rents the project would generate, or whether it was about asserting the non-monetary values of the territory through which, as previous interventions had made clear, the community's relation to both its past and its future were articulated. In the terms developed in Chapter 2 of this study, what surfaced here was the choice that opened up for the community of whether it was to accept the primacy of field of value that the project expressed—ie. the one cast upon these lands by the shifting geographies of energy rent—and thus understand this as a struggle over the appropriate *distribution* of value (costs and benefits), or whether, on the contrary, the struggle was precisely about what sort of value should prevail in mediating the community’s relation to the land and its waters.

It is important to understand however, that the conditions in which this choice presented itself were far from even among those opposing the project in the room. On the one hand, while local families had a deeper relation to the territory, they had also felt the sharp edge of the protracted marginalisation of rural economies, expressed most clearly in the constant outmigration of younger generations to the cities. This differed markedly from the situation of people like the doctor, or other urban newcomers, who had arrived to these lands on a vastly different economic and historical lane.

Thus the question of the local material and political capacities for asserting these territorialities and non-monetary was not an idle one. Indeed, the political realities around the development of projects such as these further tipped these balances, a fact that lay behind Alvarez’s approach, who probably knew these better that most of those present. Alvarez was a seasoned activist and researcher, and at the time worked for one of the most important human rights organisations in the region, an organisation whose work is primarily focused on Indigenous rights. This gave him a comparatively vast experience and fluency on the legal, institutional, and political realities of conflicts such as this one—far beyond that held by anyone locally—, but also a very important network of relations in Temuco, the region’s capital. This had positioned him as a central node in the at the time ongoing negotiations with the company, and someone who could facilitate any possible mediation by the government. On the one hand the company had recognised that one of the main obstacles for the project was likely to be found in

the opposition by the mapuche community that Alvarez represented—whose lands were immediately adjacent to the river in Llancalil—, and on the other, Alvarez was, for people in these localities, an authoritative voice on the institutional, legal, and political complexities involved in the conflict, as well as one of the main sources of 'insider' information.

Alvarez, however, had a noticeably different approach to the conflict than many of the local residents I talked to. This was already apparent in his intervention at the meeting, where his emphasis was on the meagre amounts the company was willing to compensate the local community with, and the imagery covering his main PowerPoint slides, dominated by representations of money and cash. This message—which at its core consisted in foregrounding the value dimension of the project (ie. the project is all about generating rent), studiously conflated by the company with the use-value dimension (ie. Bergmann's presentation of the project as one about generating electricity)—was received with marked ambivalence by those present. It resonated and was cheered to the extent it undermined Bergmann's rather implausible claim that it brought 'local development', to reveal it as that which everyone knew it was: Bergmann's business, in which they would, collectively, only harvest losses. On the other hand, it did not go well to the extent Alvarez took this argument into one about fair distribution, which clearly most of the present saw as giving up on the fundamental point: the rivers were not for sale. As the meeting had made clear up to that point, many of the local residents that opposed to the project—including the head of the Neighbour's Council, and the Millaqueo Millahual community—doggedly refused to engage the discussion on that level. As most interventions showed, uprooting the waterscape from the values it had acquired through the historical constitution of these communities already constituted an unacceptable concession. Plausibly, on the other hand, as relative newcomers, it was perhaps the comparative lack of historical density the land held for Alvarez and the community he represented that underpinned this divergence. Nevertheless, one should here consider that many rebuttals to the narrative that Alvarez tried to establish also came from other relative 'outsiders', who however came from a markedly different ethnic and class background.

In any case, as he would later explain to me, Alvarez had no shortage of reasons behind his approach. Drawing from his experience of other processes of resistance to similar projects in the region since the emblematic Ralco dam in the upper Bio-Bío river, he was apparently convinced that it was virtually impossible to stop these projects once they had been decided by the government. An intransigent resistance would, in all probability, only have the effect of leaving the affected community not only without its river, but also without any appropriate

compensation. Under these circumstances, the best possible strategy was to demand from very early on the biggest chunk out of the potential rents generated by the project. This would not only give some measure of compensation for the communities in case the project were to take place, but also had the best chance of actually stopping it, by increasing the costs of the project, and therefore reducing the company's margins of profitability. This was, in Alvarez's mind, the only language that both government and company ultimately understood.

For all the pragmatic realism of Alvarez's approach, it was evidently not one that at the time the majority within the local community was willing to openly accept. Indeed, many comments I encountered seemed to see this sort of pragmatism advocated by Alvarez as a source of a relative mistrust. For all the respect and appreciation Alvarez commanded locally, in my conversations with other residents the notion that he didn't hold a deeply rooted relation to these lands and therefore might eventually look for an arrangement with the company surfaced more than once.

The state and 'social validation'

The next and final section of the meeting was to be dedicated to the presentations of the representatives of the Energy Ministry, a young woman and man, who had been asked by Alvarez to explain the new policies that the Ministry was introducing to promote, in their words, the 'social validation' of projects such as the one under discussion. The discussion was, in any case, drifting naturally towards that, as after the exchange related above, Pablo commented that

> More than saying 'no' to Mr. Bergmann, we have to say it to the government representatives sitting here. … We have tell the Energy Ministry enough with trampling over the rights of the people and citizens of Chile. We chose you, and you have to be responsible for respecting us as it should be. When you are authorities you think yourselves as having the right to trample over us without consulting anything. And that is what we disagree with.

After a brief introduction by Alvarez, Laura, the female representative, stepped up and began her presentation of the new policies of participation the Energy Ministry was deploying as part of its new Energy Agenda, called 'Energía 2050' (see Chapter 3). She said that she represented the new Unit of Participation and Social Dialogue, the purpose of which was to "act as an intermediary between companies, communities, local authorities, environmental organisations, so that all actors can participate from day one". She said that in the region there were many

projects at different stages of development, many of which had been “very bad experiences”, and that that was why this unit was born. She then gave the example of Neltume—in the region immediately south of Araucanía—, where a project had been suspended due to the resistance of the community. The idea was that the project would be able to be “reworked through this participation guidelines with the community, so that they can decide and take a leading role in regards to some of the technical aspects of the project”.

She then began explaining the necessity for this shift in policy. She explained that before, projects where simply deployed over a territory, without much regard to what people thought. As examples, she referenced the already mentioned Ralco dam in upper Bio-Bío, just north of the Araucanía region, and HidroAysén in Patagonia. “We saw the problem in all of this, that there was no early participation of the community, and besides that, there has been no local development where these projects are installed… we are not going to ignore that there are things that have been done very badly”. She said that, although the Ministry cannot go back and right what had been done wrongly, it was interested in looking for solutions, and do things the right way. “We as state, we want to act as an intermediary, and we have the example of Neltume … we want to introduce associativity in energy projects, so that the community takes part of a percentage …”. In this sense, she explained, the government wanted to introduce new standards for projects, where participation is encouraged from the outset of any new projects. Here the role of the state would transition from its purported absence—a situation in which “companies operated by themselves”—to an active mediating role:

> There are a lot of opinions, we all have different positions around energy projects, but we as the state have to prevail in the face of the different opinions of all citizens. There are citizens that might want to benefit, or that if there are projects, they might also win. There are other citizens that do not want anything, and yet others that want to be informed so as to make a decision. In front of all these position we as the state want to generate these instruments and guides for participation, so that everyone can be heard.

Even in projects at more advanced stages of development, the guidelines Laura was presenting could organise fora such as this one, in which the concerns of the community could be heard and people could get informed. In broad terms, she said, what the Ministry aimed at were “projects with better social and environmental validation”. She said that while it was of course true that the Ministry supported energy generation projects, the idea was that these projects were “good projects, not only in technical terms, but also in social terms”.

If Alvarez's presentation—with its framing of the conflict as one about the necessity of negotiating better distributional terms with the company—was meant to give a cue to Laura's presentation of the Ministry's mediation mechanisms, the mood in the meeting had turn out to be decidedly unreceptive to this possibility. The first to respond was again Pablo, who picked up on Laura's reference to the case of Neltume:

> There was talk about Neltume. I want to say to the community that the ones who struggled for fifteen or twenty years was the indigenous community, and I know the leaders, I've met them, and it hasn't been the government or the state who have supported [the movement] so that this project was stopped, on the contrary, they are the ones that have put all the obstacles so that the community, their position, wouldn't take place. Finally, today, as an outcome of the struggle, there are fruits. That is what we need to value...

In this sense, from Pablo's point of view, it was very clear that the government, far from shifting from an absent role to one of neutral mediation, as it came across in Laura's presentation, had always operated decidedly in favour of energy projects, which made this pretension to play a mediating role suspicious. He then went on to say that he found strange that the state was congratulating itself for being respectful towards the will of indigenous communities, that it should "first ... apply the agreement, the 169 [of the ILO], which says indigenous communities have the right to choose their ways of life", given that the continuous imposition of projects the communities do not want shows no respect for these agreements.

After Pablo, I asked a question on whether within this framework the collective decisions of the community had any binding character, to which Laura responded that while that was their aim, these policies are still new and that currently they were not binding. My response was that, if that was the case, since there are no guarantees, the community had every reason to be cautious in approaching this as a tool to protect their interests. In particular, I proceeded, considering that the State is no neutral mediator in this, as her presentation seemed to imply; just a few months ago the Energy Minister had announced their plans to build one hundred small hydropower projects, many in the region[112], a statement that far from reflecting a process of 'respectful dialogue', expressed the traditional geographies of political power—centralism, as it is called in Chile—in which all the core questions about the region's development were settled in Santiago. Laura responded that "while it is true that the Ministry has a project portfolio, the

[112] See Paúl 2015, Chapter 3.

idea is to do them with social validation. … while the minister did say he wanted a hundred mini-hydro, he also said he wanted the communities to participate in the process".

What this response made clear, of course, was how the space opened by these participation mechanisms implied at the same time a clear delimitation of the political capacities of the community over their lands, of what was within their purview to discuss and decide: they could participate in the plans the government had for the region in relation to the national geographies of energy, but not in defining what those plans were in the first place.

And it was precisely this problem that laid behind Pablo's comments, who immediately intervened once more. He said that he had in fact attended many of the regional meetings linked to the elaboration of the *Energía 2050* agenda, as many social organisations and leaders from all over the region had, to tell the Ministry that they did not want hydropower plants.

> That word is there, we do not want them. So if you are talking about whether it is binding, it does not exist. We already told you a year ago. And the minister keeps insisting, two months ago, saying that they will install so many hydropower plants in this territory, when social leaders and communities have already given their opinion on the matter. We live here from tourism, from nature, we don't want these resources to be destroyed.

Pablo said that in this sense he was more than sceptical about the extent into which the Ministry would respect local opinions, no matter how clear they are stated. In particular he referenced the recent case of the Doña Alicia project, in the north of the region, which upon being rejected by a large majority in the Regional Commission for the Environment, was nevertheless approved by a Ministerial Committee operating at the level of the central government, disregarding not only the overwhelming local opinion, but also the government's own institutionality at a regional level[113]. As the widespread regional political gossip had it at the time, this conflict laid behind the then recent removal of what had been the, admittedly notoriously moderate, first Mapuche Regional Governor [*Intendente*] in the region's history. Pablo concluded, "so we oppose here, and a group of people in Santiago approve it. What is it then, do you respect us? These are all just words for me, with all the experience I have as a leader, all the meetings I've been at. These are all just words, in reality there is no respect".

[113] A few months after, an investigation commissioned by the Congress on this case found that the Energy Ministry had directly intervened and pressured to get the project approved. See Chapter 3.

Conclusions

After this last exchange, Guillermina finally called the end of the meeting, as people chanted "*no a la central!*" [No to the plant] and "*Huife sin hidroelectrica!*" [Huife without plants]. Although there were no concrete agreements made between the different parties, and the future of the project remained undefined and out of the direct control of the community, most of us present seemed to feel uplifted in a way I had not really expected. If anything, the meeting had provided an unprecedented space for the articulation of a collective position, for the explicit self-recognition of the community in a common stance: "we do not want this". In a sense, the company's complete disregard for the communal dimension of the valley's waterscape was not surprising: as I mentioned before, 'the community' was a notion that—although firmly rooted in a common dependency upon the waterscape, a common history, identities, and moral relations—had no institutional expression beyond the Neighbour's Council; an instance that was mostly a function of the common relationship to the state, through which public resources were negotiated. This lack of political articulation of what during the course of the struggle had emerged as a fundamental aspect of the political ecology of these localities—the way in which the waterscape interweaved with a *common* substratum of identities and relations—was highlighted by how the meeting had effectively functioned as a platform for the expression and collective articulation of long simmering positions, which in many cases found strong common purchase and collective resonance. It felt like a long overdue collective event in which individual valuations that had been long brewing mostly in everyday conversations encountered their social grounds on an open forum. This was what, I would venture, was behind the many lifted spirits I encountered when we stepped out of the small hall, as people got into their cars and onto their horses. The meeting in this sense not only expressed through many voices the existence of a constitutive commons—brought to the fore precisely by their negation in the multiple conditions that had made operations of the company in the territory possible—but also made manifest the necessity, imposed by the situation, of giving them political form.

Nevertheless, what the meeting and its composition had also made evident was that the geography of the conflicts associated with the project was not isomorphic to the geographies of the commons it was affecting in these particular valleys. On the contrary, it was clear that the latter constituted but one of the different dimensions of a conflict that spread across a range of geographical scales and their respective contradictions. The ambivalence that characterised the relations between these different dimensions and scales was made unusually explicit as they converged and articulated in the course of this conflict. For instance, the contradictions of

tourism as an economic strategy—namely, its reliance on the very ecological values it eroded—mainly played out at the Municipal scale, and the way the project beared upon this condition was one of the main hurdles the company had to contend with. Tourism appeared for many in the local community, on the one hand, as an opportunity for the future economic viability of the territory, and even as a source of alliances, visibility, and external validation, while on the other it was the cause of the intensifying alienation many felt with regards to the dynamics of ecological and territorial change—as expressed for instance in the then ongoing processes of real estate speculation rife across the lower Liucura valley and the Municipality more broadly (Chapter 5). The very presence of many of those of urban origins in the hall—myself included—was probably one more expression of this process through which rural spaces are subsumed into the geographies of the urban middle classes. Geographies which, nevertheless, local residents consistently used for the establishment of alliances to oppose the project.

Another important geographical layer of the situation was the way in which the project was part of a conflict that took place on a regional scale, at which the project found both its precedents, and its most contentious political meaning. As it was repeatedly recalled during the meeting's exchanges, the project was part of a region-wide intervention that touched upon the deep rooted grievances of the Mapuche people—who in many cases, such as Huife, lived in these remote valleys already as a consequence of previous dispossessions, as Osvaldo's intervention reminded everyone—grievances that over the last decades have proved to be one of the main sources of resistance to the place the region has been assigned within the metabolism of the Chilean neoliberal experiment—expressed, *inter alia*, in the form of hydropower and exotic tree plantations. This was an unavoidable political context that surfaced constantly during the meeting, a layer of meaning that not only weighed heavily on the government's policy shifts, and the *mea culpas* that surrounded their presentation in the meeting, but also constitute perhaps the main grounds for the oppositional articulation with similar struggles across the region; something at that time had still only been fragmentarily pursued by those leading the struggle at the local level[114].

By the time the government representatives made their pitch, the meeting had taken a direction that rendered it somewhat misplaced. The evident need established by that point in the meeting was not that of an effective instance of mediation with the company—although this was also clearly needed—but rather the need, first, of an instance in which a collective position could be articulated (which in turn implied the elucidation of what and who actually constituted

[114] This changed noticeably during the 2018 the renewed project. See Conclusions.

the 'community', something that was, as we have seen, far from self-evident[115]), and, second, the recognition of and respect for these decisions; something for which there were no guarantees in the schemes the government was proposing. In other words, the issue of power, of who gets to decide over the territory, was not only not really addressed, but perhaps further obfuscated: the fact that the project was not being *proposed* but *imposed*—which ultimately laid at the core of the sense of anger that surrounded the whole situation—was not remedied by an increased scope of participation in what was considered to be imposed in the first place.

Of course, and as it surfaced many times during the meeting, the most obvious means through which this imposition was carried out was the legal-institutional framework that enabled the company's control over the local waterscape. Nevertheless, as the course of the meeting would make abundantly clear, the whole process was also embedded in old cultural forms of subalternization through which dispossession has been naturalised throughout the history of capitalist development in the region. This was expressed with particular clarity in Bergmann's dismissal of local knowledge, and the exclusion of local valuations from what he considered the meeting to be about. This was, generally, not an explicit dismissal, but rather a social relation already implied in the discursive frame in which several of the crucial aspects of the situation were being discussed. The material alienation of the community from its hydric commons was culturally articulated in a strict dichotomy between matters of fact—established in this case by the studies that the company had paid for, and which Bergmann was to clarify for the community—and those regarding the local valuation of the project; which, as Bergmann repeatedly insisted, were for him concerns outside the scope of the meeting. In his view, he was there to resolve local 'doubts' and 'misconceptions' about the purportedly 'real' impacts of the project. This framework was not only ultimately sustained by the above-mentioned political condition of domination—ie. the fact that the local community had very little say in what would ultimately happen on their lands, a ball that was squarely placed in the SEA's court—, but also construed local values as an essentially *subjective* phenomenon with no bearing on the objective ecological reality described by the company-commissioned studies. On the contrary, as I have explored in this study, the local (use) value relations to the territory, and therefore to the project that was to be implemented in it, expressed an irreducibly intersubjective (ie. social) and material (ie. practical) process by which local identities found their social arenas of meaning. The notion of *territory*, which emerged several times in the meeting, gave not only geographical,

[115] In this sense, it is worth asking to what extent the mechanisms of mediation described being deployed at the time by the Energy Ministry predefine what the 'community scale' is. If anything, the meeting showed that the area of impact of the project was far from straightforward.

but also historical, form to this process. The conception of nature the company operated with throughout this whole process, shared in this sense "[t]he chief defect of all hitherto existing materialism" Marx already denounced in 1845 (Marx 2002): that of being an object of contemplation devoid of human practical activity, which found its necessary counterpart on the confinement of the complex local imbrication of knowledge and values to an ideal sphere of 'culture', from which they could then be easily interpreted as factual misconceptions. What this case suggests however, is that this dyad of abstract materialism/idealism, far from being confined to nineteenth century debates within German philosophy, continues to be reproduced as the necessary cultural articulation of the shifting geographies of capitalist rent, as expressed in this case by the Llancalil project.

Nevertheless, this framework was far from being uncontested, and indeed ended up hardly containing the discussion. As I have shown, the conversation constantly strayed from it as people's rejection of the project, the relation between their history and their future, the knowledge of their lands, all interweaved seamlessly in many of the crucial interventions, which ended up not really addressing Bergmann at all, but the collectivity present there as a whole. The rejection of the project and the oppositional assertion of the values the territory held at different scales gradually became the centre of gravity of the discussion.

All of this created a clear friction with what seemed to be Alvarez's original plan for the meeting: making explicit the meagre amounts the company was offering in compensation in relation to similar projects in the region, exposing him to the local sense of illegitimacy that surrounded his acquisition of the water rights, and finally forcing Bergmann to negotiate better terms with the community. At that point, the presentation by the representatives from the Energy Ministry would set new parameters for the company's operations in the area, which would hopefully put the community in a better position to negotiate, and perhaps even oppose, the project. As it turned out, the conversation revealed a decidedly different disposition among those present. Alvarez's presentation was resonant precisely to the extent it foregrounded the value dimension of the project—ie. that it was first and foremost a "money factory"—, but found much less purchase when, once this was established, it remained on this dimension and centred the discussion on the distribution of rents. Notwithstanding the *realpolitik* that underpinned Alvarez's approach, this went very clearly against the grain of the terms in which the struggle had taken place up until then: at its core the struggle was about the refusal of subsuming the rivers under the value regime that the new geographies of energy and rent where casting upon

them. As Guillermina would tell me in another occasion, this was a struggle that was lost the moment one started to talk about prices.

Still, inextricably implicated in this refusal, laid a much broader question, one as pressing as it was unclear. This was the question of futurity, a question that converged with that of the past in Huife's people's very sense of identity.

7. Conclusion

This thesis has explored the frontier-making processes entailed in the ongoing transformations of energy infrastructures in Chile, as processes in which the contested (re)production of socio-natures occurs through the clash, interweaving, and negotiation of the multiple layers of value and practice that mediate and give socio-ecological relations their particular cultural forms. These contesting valuations not only call into question the social meaning of, in this case, hydropower infrastructure projects, but in so doing constitute the cultural grounds for the political composition of the evolving antagonisms entailed by contemporary strategies of accumulation and their adaptation to intensifying socio-ecological transformations. It is my hope that this study, through the development of a distinct approach and analysis, has contributed to the still incipient literature on the social relations and processes that are entailed in the rapidly changing energy frontier in Chile, and beyond. In particular, the study has sought to contribute to ongoing discussions within Marxian ecological thought, in order to develop a value-theoretical framework that can give an account on contemporary socio-ecological conflicts in all their cultural depth, and allows to connect these dimensions to the broader dynamics of capital accumulation. This has allowed me to contribute to the literature on contemporary transformations of energy infrastructures with an empirically rooted account of an instance of these transformations, their complexities, and the sort of contestations they entail.

I started by developing 'value' as a political-ecological category, building on Neil Smith's thesis on the production of nature. My main argument is that Smith's formulation neglects the crucial importance of use-value in Marx's theory, the incorporation of which delivers us a very different picture and understanding of capitalism as an ecological project. As outlined in Chapter 2, far from a utilitarian reductionist reading, I follow Echeverría in understanding use-value as a complex and variegated field of signification through which social reproduction gives itself cultural form, a process that under capitalist relations is marked by the uneven and contested subsumption of social reproduction to the demands of valorisation. Capitalist ecologies, rather than unilaterally expressing these demands, express this constitutive struggle in which socio-ecological reproduction is subsumed under its own inversion in the form of an expanding and alienated economic reality. This process ultimately implies a struggle over the social form of socio-ecological reproduction—in the case presented here, a struggle over whether nature is to be produced as abstract 'energy', or as a site for the reproduction of the multiple vernacular use-values it sustains.

To approach this field of use-value, I draw on what I consider to be key theoretical and methodological aspects underpinning Marx's development of the category of 'value', which, drawing inspiration from Terence Turner, I argue can help us delineate a 'symbolic materialist' theory of social/cultural form. In Marx's value theory, the capitalist form-determination of social reproduction is described in the following terms: as a consequence of the fragmentation of socio-ecological relations through primitive accumulation, the irreducible social character of human practice comes to exist as 'abstract labour' and is expressed through a symbolic attribute of the commodity—its value. This attribute can in turn only be realised and defined in relation to the social totality constituted by the (world) market. In Marx's account one can discern three internally related aspects or moments of social reproduction that are organised in the historical form of 'value': meaning (as value), practice (as labour), and sociality (as market). In other words, Marx's theory of value as a theory of social form implies positing 1. the social and symbolic nature of human *practice*, 2. the practical and social nature of *symbolic meaning*, and 3. the symbolic and practical nature of human *social relations*. The conception of social reproduction entailed by Marx's materialist analysis is therefore one in which human subjective practice is irreducibly linked to a socially defined *telos*/purpose/meaning/value[116], meaning constituted through the integration of subjective practice into a particular social/relational field, and these social fields or totalities are consequently constituted and defined by a set of meaningfully concatenated practices.

This understanding of the co-constitutive relation between socio-ecological practices and the different social fields in which their meaning is negotiated is what lies behind my analysis of the different values that mediate socio-ecological reproduction in Huife, and how these are mobilised as oppositional forces in the context of the expansion of energy infrastructure in these valleys. I have tried to identify and explore the different social fields—which have both historical and spatial dimensions—in relation to which current transformations are evaluated and contested. Here the first one, the force driving the expansion of the energy frontier, is of course that of the geographies emergent from the strategic challenges posited by the national sustaining of planetary circuits of extractive valorisation I analysed in Chapter 3. Regarded from the perspective of this globally defined regime of value, the hydrological conditions of valleys such as Huife appear as the locus of potential energy and energy rent. The concrete unfolding of these logics however, is at every point determined by how it articulates with the various social fields in which the vernacular values that mediate socio-ecological reproduction in these spaces

[116] Here I take all of these terms to be distinct aspects of a general semiotic process of signification.

are constituted, and the relative capacities for political articulation that these social fields possess.

In this sense, it is clear that at the local level one of the crucial aspects around which oppositional forces gravitate is the historical value that these lands hold for present inhabitants, which is closely linked to the reproduction of multifaceted collective identities. This was one of the most conspicuous values mediating people's relation to the land, and emerges from the social field constituted by the relations symbolically established by present inhabitants with previous generations, which is expressed and reproduced by means of collective memory and local historical consciousness. As many of the testimonies presented expressed, these relations to people's forebears constitute a central piece in the frame through which the multiple transformations these communities are undergoing are interpreted and evaluated, and imply a range of expectations regarding individual behaviour towards the landscape—expectations that are, to be sure, not always followed, but nevertheless always present. These relations not only bear upon the reproduction of collective identities in relation to the land, but also have a clear weight in the conceptions of what a desirable future might look like.

This process of historical and geographical constitution of the communities is also present in other, related, social fields. One is that described in Chapter 6 around the vernacular hydrosocial relations that I referred to as the moral economy of water. As the chapter showed, these notions and values mediating water access developed as a function of the needs of social reproduction during the settlement period, in which relations of mutual recognition were an integral part of consolidating the material viability of territory's settlement by families of widely diverse origins. This moral economy represents an arguably receding social commons, which nevertheless constitutes a fundamental backdrop against which the operations of the company and the enclosure of the waterscape appears as illegitimate. It is also in relation to this backdrop that the extent of the relationship between commodification and the state's hydrosocial power can be more clearly identified.

Another layer of the conflict closely related to the historical relations described above has been that of the way in which Mapuche identity has surfaced as a crucial element in the context of the struggle, especially in the case of lower Huife. This situates the conflict in an enormously complex and politically charged social field, with deep historical roots and national geographical dimensions. In this field, many aspects of local memory and local territory have acquired new value, as seen in Chapter 5, and appear with increasing salience in local narratives of opposition. The reinterpretation of local memory from the revaluation of indigenous identity

has also introduced new political elements—the notions of autonomy, of territory, of the contemporary relevance of historical grievance—that have been developed through the process of political recomposition undertaken by the Mapuche people over the past decades in the country as a whole. Indigenous identity has thus reshaped the relation to the state in ambivalent ways, as it posits both new forms in which state power is exercised and new terms through which this relation is put into question. This aspect of the conflict constitutes a serious political problem for the hydropower project, in so far as it places the local conflict in one of the most problematic fronts faced by the neoliberal state at the regional level, makes it navigate a trickier legal arena, and it constitutes a potential basis for circulating Huife's struggle on broader scales.

An additional set of relations from which local territorial values emerge is that entailed in the condition of semi-proletarianisation, and its concomitant geographies and temporal cycles. Local livelihood strategies combine and traverse urban and rural spaces, a geographical relation through which these different spaces acquire differentiated values; values that are in turn heavily modulated across the different life phases of community members. If urban spaces normally offer enhanced possibilities for self-creation—and are thus very important for younger members of the community—rural spaces are linked to a sense of identity, and to the possibility for a relative autonomy from wage-labour and its discipline. Regarding the waterscape, it is in this relation that the territory appears marked by the relative value of 'abundance' as well, which according to many constitutes one of the territory's main riches. This relation is thus crucially important in understanding the fact that the impacts of potential hydropower infrastructure are not confined to those who are now permanent residents, but indeed ripple through a complex human geography that stretches far beyond the confines of these valleys, which has also allowed Huife's struggle to circulate in different spaces.

Relatedly, the complicated set of values emergent from the tourist economy has been a decisive factor in the context of the conflict. Mass tourism has entailed the enrollment of the region into a wide range of scales—regional, national, international—and has been driven by dynamics of marketisation and accumulation that are universally perceived to be threatening and out of the control of the Municipality's inhabitants. Nevertheless, the incorporation of the territory into this social field has also projected on it a wide range of use-values—closely linked to socio-ecological conditions such as forests, hot springs, rivers, and the *campesino* way of life—that are not only locally felt to hold future possibilities for the reproduction of local territorialities, but have also entailed the possibility of crafting alliances with a range of other social sectors interested in preserving some or all of these values. To the extent that the whole

of the Municipal economic strategy pivots on these issues, this is likely to present the most serious challenge for the hydropower project at the municipal scale at least.

These are some of the main cultural and social forms that mediate socio-ecological reproduction in Huife, specifically those that over the course of the struggle have constituted themselves as oppositional forces and hold the possibility of articulating the antagonisms the energy frontier is generating across different scales. In this sense, what this study has focused upon has been the contested process in which the energy frontier operates not by simply effecting material transformations in nature for the production of energy, but rather by the contested displacement and/or subordination of the multiple social form(s) that these ecologies sustain, (re)produce, and nurture. In other words, this refers to the ongoing disciplining of the multiple social forms of energy, under the rule of the abstract energy and abstract labour.

Huife, and the challenge of 'jumping scales'

This study has sought to understand the social relations in which the vernacular meanings and values that fuel resistance to hydropower in Chile are constituted, and the ways in which they converge in the formation of oppositional subjectivities. Visibilising the cultural relations and values in which resistance is grounded, and the sort of geographies in which these are reproduced, is, in my opinion, fundamental to move beyond all too common understandings of socio-ecological conflicts as being disputes over the *distribution* of costs and benefits, to an understanding of the multiple ways in which these conflicts call into question the very hegemonic value regime in which issues of distribution are ideologically framed (see Chapter 3 and 7). In this sense, this thesis seeks to contribute to a more complex understanding of the current conflictivity at the energy frontier in Chile, through an analysis of the energy frontier as a socio-ecological process. Such an understanding seems fundamental in the difficult task of thinking through the challenge of decarbonisation in all its political, social, and cultural complexity, as a fundamental part of any potential emancipatory political program. Relatedly, awareness and attention to these relations is fundamental for movements trying to find openings for political mobilization: it is only by bridging and building on these points of contradiction that a movement can find a firm foothold on existing forms of consciousness, and politically compose common grounds beyond the atomised landscape of struggles that has characterised the large-scale deployment of multiple small-scale hydropower projects (Chapter 3). In this sense, the question of the conditions of possibility for 'scaling up' the proliferating

local resistances is a crucial one, since it will be through this process of political composition that alternative narratives and practices of adaptation to a changing climate can emerge—ones that might both have the potential to command mass support, and foreground the necessities of social reproduction rather than those of sustained accumulation and compounding growth. The process of production of this multiscalar space in which counter-values converge and are mobilised, the sort of alternative narratives and practices that cohere in them, are in my view a crucial area for future research.

In this sense, it is important to make some observations on the ways in which the situation analysed in this study was evolving at the time of writing. When I finished my fieldwork, *Huife Inversiones* was still in the process of responding to the observations made to the project by different government dependencies as a part of the process of environmental assessment. After a few months, perhaps to avoid a possible rejection, the company withdrew the project; something greeted with great happiness by people in Huife, although tempered by caution as they suspected the company would be back at some point. Indeed, in April 2018, the company resubmitted the project, perhaps expecting a more favourable regional political context entailed by the incoming right-wing administration headed by multimillionaire Sebastián Piñera, who had made the 'reactivation of economic growth' and 'getting rid of obstacles for investment' his main campaign promises. An expectation that would have been rapidly confirmed, as one of the main local operators of the Llancalil project—the person in charge of lobbying people in Huife and Pucón—rapidly assumed the position of regional representative of the Energy Ministry (Seremi). Nevertheless, the resubmission of the project sparked in Pucón an even stronger backlash than the previous time, showing the decidedly complicated social and political barriers that the project would have to overcome to be realised. Professionally made videos of the valley, its people, and the menace entailed by the project circulated in the internet, and a new organisation coordinating the multiple resistances and socio-environmental conflicts at the scale of the Trancura river basin—which encompasses the territories of both Pucón and Curarrehue, and includes the Liucura basin—emerged: the *Movimiento Ambiental Intercultural Cuenca del Trancura* [Intercultural Environmental Movement of the Trancura Basin]. The movement now has its own space on local radio, and has organised demonstrations against environmental degradation of the territory's lakes and rivers in Pucón[117], denouncing, in addition to hydropower projects, uncontrolled real estate development, fish farms, and pollution linked to tourism. The movement's name foregrounds both the role of rivers as defining the geographical

[117] See their webpage: https://www.facebook.com/maictrancura/

scale of political composition—thus reflecting the strategic character of water and the nature of the modes of accumulation they are confronting—and the multicultural nature of the territory it attempts to organise, thus pushing back on the forms of racial oppression that, as we saw, are entailed as a condition for the profitable deployment of many of these accumulation strategies. In this movement it thus appears that both the moral economy of water and the issue of indigenous identity continue to play an important role as grounds for political articulation.

This important role is certainly the case for organisations that coordinate struggles at broader scales, which I had the opportunity to get to know more directly during my time in the region. A significant number of struggles that exist in many of the mountain valleys in the *cordillera*, and in the Araucanía region more generally, have been able to articulate themselves in regional networks. Perhaps the most important one is the *Red en Defensa de los Territorios* [Territorial Defense Network], with whom I was able to participate in a meeting in Curarrehue, and in demonstrations in Temuco. Networks such as these play a very important role as they provide legal, technical, and political support to otherwise very isolated localities (see Figures 3 and 4 below). And, perhaps even more significantly, these networks are sites where dialogues between different experiences converge in broader political narratives, narratives through which concrete conflicts are reinterpreted in terms that permit their composition and circulation at broader scales, and help them constitute and reinterpret local experiences as being part of a single emerging struggle for reclaiming control over water, and the respect of indigenous rights[118]. During the early autumn when I was there, this network also hosted a national two-day event in Temuco, organised by the *Movimiento por el Agua y los Territorios* [Movement for Water and Territories], a national network the *Red en Defensa de los Territorios* is part of. This event was a clear instance in which these common perspectives were being constructed, rooted in the dialogue and convergence of multiple struggles up and down the national territory. Again, the recuperation of water as a common good emerged as a central theme in the event, and various discussion groups talked about the different visions around this—for instance, whether we meant by recuperation of community control, whether we meant control by the state, and how these forms of control would be organised, what political strategy should be pursued, etc. The question of plurinationality was another central concern in these discussions, highlighting the cultural politics that have become part and parcel of socio-environmental struggles in Chile, a fact that illustrates the central role played by colonial and racial domination in the form of capitalist accumulation developed through the Chilean neoliberal experiment. On the second

[118] For examples of the network's actions see: Mapuexpress n.d.

day of the event, we moved to Melipeuco, a municipality immediately north of Pucón, where multiple hydropower projects are either in operation, under construction, or projected. There a ceremony was held by the Mapuche community on the *Truful-Truful* falls, a site at the time threatened by a hydropower project. From there, about two hundred people—representing organisations from all over the country—marched all the way across the forests and fields towards the town of Melipeuco, where a meeting and cultural event was held.

Figure 27. Photograph taken by the author of the *Marcha Plurinacional por el Agua y los Territorios*, demonstration held on April 2016 in Temuco.

Figure 28. Photograph from the same demonstration. Banner reads: "Justice, sovereignty, and dignity, water and power to the community!"

Figure 29. Ceremony held in Melipeuco, on the falls threatened by another hydropower project. April 2016

Figure 30. March from the river towards the town of Melipeuco. April 2016

This event provided much needed support to the organisations resisting the projects in Melipeuco. According to a personal friend who lives in the area and has been involved, the resistance had recently encountered problems related to the deep divisions sown by hydropower companies within the communities, and among families. The presence of all these people and organisations talking about similar experiences had made the local organisations feel supported and vindicated in what had become an uphill battle[119]. Solidarity was being built, and through this, political narratives that helped make common sense out of these struggles, and identify strategic paths forward for their territories.

In this sense, what kind of perspectives did I see emerging from networks such as these, which articulate the existential necessity—faced by those communities that find themselves at the extractive frontier—of asserting the worth and dignity of their spaces of life? The most salient elements in these networks' discussions were critiques of economic growth and hegemonic notions of development—sometimes, though not always, articulated as a critique of capitalism. There was a strong element of reasserting indigenous identities, cultures, and territories, especially as constituting a cultural and political bulwark to the commodified relation

[119] A battle they would ultimately win, as this particular project was eventually rejected in January 2018. See UFRO Medios 2018.

to the land and water these struggles invariably confronted, and as an important cultural resource for crafting conceptions of the future that might break the narrow confines imposed by capital and the state as forms of human community. In general, indigenous traditions and ways of life were seen as constituting valuable perspectives and sites from which to approach the struggle to repair what was perceived as society's broken relationship to the earth.

Indeed, it is worth noting that across Latin America it has been from these experiences—the experiences of communities dealing with the extractive end of the global capitalist system—that some of the most radical critiques of hegemonic notions of development have emerged. So far, however, the experience and visions emergent from the extractive frontier have only began to more solidly articulate with those emerging from other fronts of contradiction—say, with the experience of mass indebtedness in cities, precarious work, or with the misery inflicted by privatised public services—in what would hopefully be a more encompassing vision of the future that resonates across the complex geography of globalised capital accumulation. This—the political composition of the enormous geographical fragmentation of the different and uneven moments of contemporary capitalism—remains an open and ongoing task, one to which future research must contribute.

It is worth saying that during the time I was in the field, the community of Huife was still only very incipiently 'jumping scales' beyond the strictly local; and no one from the community attended the events described above. As explained above, this has been less the case this time around with the project's resubmission, and the links of the local struggle to nearby towns, local networks, and other sectors continue to grow in density. An open question is how the local experience and the values that motivate local opposition would articulate with the political narratives meitoned above. Would these find purchase in interpreting Huife's experience and common sense? To what extent is this common sense itself being transformed by the frontier? What sort of vision capable of contesting the inevitable process of adaptation to a changing planet would emerge from places like Huife, its history, and its social and cultural composition?

These days, it seems evident that the terms imposed by an adaptation led by the capitalist class and its strategic interests can only be shadowed by struggles everywhere, as the sustainment of expanded accumulation in a warming planet will continue to intensify—and ideally profit from—dispossession and the production of vulnerability. The issue, that this dissertation has tried to remain focused on, is in this sense not that of the deployment of particular technological forms, but rather of the social relations that these technologies and infrastructures are built to instantiate and reproduce. If our current planetary circumstance has

been brought about by the historical hegemony of a particular social relation—that of capital—it can only be engaged by problematising and confronting this relation, rather than, say, its atmospheric symptom. And this problematisation can only begin and end in the human stories that inhabit this planet, the ways in which these makes sense of its becoming, and from which the dreams that breathe life into the ever uncertain future will continue to emerge.

Future directions of research

As signalled before, this study opens several avenues for further research. One question, suggested above, is that of the relation between the cultural and historical grounds of resistances—such as the ones explored by this thesis—and the spaces produced by the networks and organisations that attempt to organise and unify these struggles. What sort of convergent values are created in these networks, and how do these relate and feedback into local experiences and subjectivity? What sort of contradictions and challenges emerge from this process? What future perspectives are produced by this convergence?

The question of the cultural grounds of resistance and struggles over value is particularly relevant to current discussion around water, and its recuperation as a common good. The complexity of the water issue is rooted in the fact that, as described at different points in this thesis, water's status as private property is so central to the functioning of the Chilean economy as it is currently organised, that its transformation in to a form of commons—whatever form this might take—can only be conceived of as part of a much more general and encompassing process of transformation. As with many other fronts of reform, neoliberalism in Chile has been organised and institutionally consolidated in such a way that even minor reforms—in this case the not-so-minor modification of the status of water as private property—imply transformations on the constitutional level, and perhaps more substantially in the case of water, transformations in the economic structure and strategy of the country. Abstracted from a political project of broader transformations in economic strategy, the recuperation of water as a commons would simply render an economic model premised on water-intensive extraction by export-oriented capitalist corporations dysfunctional. In other words, the question of water strikes at the heart of the question of extraction and neoliberal accumulation in Chile, and poses questions that go way beyond the frontier spaces in which water conflicts are most explicit. The findings of this thesis would suggest that these discussions must be rooted in the moral economies that water flows through all across the hydrosocial cycle, such as those described in Chapter 6. Further

research into this dimension of the hydrosocial cycle would shed much light on the possible cultural grounds for the political composition of the demand of water as a commons, and would help demystify the prevailing view of the Chilean hydrosocial cycle as one dominated by 'markets', question addressed on Chapter 3 and 6.

Another, related, issue is that of how the geographies of semi-proletarianisation discussed on Chapter 5 might hold certain potential in linking struggles at the extractive frontier with those contradictions experienced in cities. How are these different contradictions made sense of by those who's life geographies stretch across these spaces? What sort of subjectivities does this condition engender? What are the possibilities for solidarity across putatively 'urban' and 'rural' spaces, what are the common grounds? What sorts of potentials does this geography of semi-proletarianisation—in many ways a product of the neoliberal experiment—hold from the perspective of the political composition of different fronts of contradiction in the fragmented geographies of capital accumulation in Chile?

In more general terms, this study has touched upon the notion of 'energy transition' and the process of transformation of energy systems as a field of contestation, which, far from simply being technical in nature, brings to bear inherently political-ideological projects of what the future should look like, and who's interests should guide the inevitable process of adaptation to a changing planet. The notion that this transition will be able to be undertaken without a significant departure from the basic parameters of the contemporary capitalist order—ie. it will be market- and profit-driven, structurally reliant in colonial relations to indigenous territories, and one in which the interests of the capitalist class remain identified with those of society—, while still dominant in Chile, and well represented in agendas like *Energía 2050*, grows less tenable with each passing day of stubbornly growing global emissions, profilerating socio-ecological conflicts, and the looming shadow of catastrophe these cast upon the future. To date, green capitalism has failed to make its entrance on stage, and the audience grows impatient—not only with the dismal show in offer, but with our very confinement to play the passive audience of our own history; a role *inherent* to a social metabolism subsumed under the alienated dynamics of capital accumulation. As alienation and its ecological consequences pile on and accelerate, earstwhile solid claims to legitimacy and credibility of political elites erode, and alternative forms of climate and ecological politics, visions, and movements begin to be pushed into the mainstream, in different, unexpected, and often problematic, forms. How might these alternatives look like in Chile—who's concerns and experiences would they mobilise, how would they articulate with the contradictions bequeathed by four decades of neoliberal rule,

what alternative visions of the future might emerge from these—is still an open question, one to be explored in future reasearch. How would a process of transformation and adaptation unconstrained by the imperative of compounding accumulation look like, and what would it take to even open a conversation in these terms? What would the social, cultural, and political grounds for this conversation be? What sort of coalition will be able to articulate its terms? What sort of conception of the future might be able to propel such a movement?

Bibliography

Adorno, T.W., 2004. *Negative Dialectics*, Routledge.

Althusser, L., 2006. Ideology and ideological state apparatuses (notes towards an investigation). In A. Sharma & A. Gupta, eds. *The Anthropology of the State: A Reader*. Malden, MA: Blackwell, pp. 86–98.

Álvarez, M., 2015. Entrevista, Máximo Pacheco. *El Austral*. Available at: http://www.australtemuco.cl/impresa/2015/05/24/full/cuerpo-principal/14/.

Antimil, J., 2016. Colonialismo y procesos sociolingüísticos en Territorios del Ngulumapu. In P. Canales & M. Castillo, eds. *Pueblos Indígenas, Colonialismo y Subalternidad en América del Sur. Siglos XX y XXI*. Santiago: Ariadna Ediciones, pp. 185–219.

Araucanía Cuenta, 2017. Con Inédita medida Pucón resguarda sus aguas en el Ministerio de Medio Ambiente. *Araucanía Cuenta*. Available at: https://www.araucaniacuenta.cl/con-inedita-medida-pucon-resguarda-sus-aguas-en-el-ministerio-de-medio-ambiente/.

Arboleda, M., Forthcoming. Logísticas de la extracción: circulación del capital, poder estatal y el urbanismo de la conectividad en el norte minero de Chile. *Investigaciones Geograficas*.

Arboleda, M., 2017. On the Alienated Violence of Money: Finance Capital, Value, and the Making of Monstrous Territories. *New Geographies*, 9.

Armesto, J.J. et al., 2010. From the Holocene to the Anthropocene: A historical framework for land cover change in southwestern South America in the past 15,000 years. *Land use policy*, 27(2), pp.148–160.

Armesto, J.J., León Lobos, P. & Kalin Arroyo, M., 1995. Los bosques templados del sur de Chile y Argentina: una isla biogeografica. In J. J. Armesto, C. Villagran, & M. Kalin Arroyo, eds. *Ecología de los bosques nativos de Chile*. Santiago: Editorial Universitaria.

Aylwin, J., Sánchez, R. & Yañez, N., 2013. *Pueblo Mapuche y Recursos Forestales en Chile: Devastación y Conservación en un Contexto de Globalización Económica*, Santiago: Observatorio Ciudadano/IWGIA.

Bacigalupo, A.M., 2007. *Shamans of the Foye Tree: Gender, Power, and Healing among Chilean Mapuche*, University of Texas Press.

Badeen, D. & Murray, P., 2016. A Marxian Critique of Neoclassical Economics' Reliance on Shadows of Capital's Constitutive Social Forms. *Crisis and Critique*, 3(3), pp.9–28.

Baeza Gómez, E., 2018. *Mercado del agua en Chile e inscripción y transacciones de los derechos de aprovechamiento de aguas*, Congreso Nacional de Chile.

Bakken, T.H. et al., 2012. Development of Small Versus Large Hydropower in Norway–Comparison of Environmental Impacts. *Energy Procedia*, 20, pp.185–199.

Bakker, K.J., 2003. *An uncooperative commodity: privatising water in England and Wales*,

Oxford: Oxford University Press.

Baquedano, M., 2018. Una victoria de la ciudadanía. In M. Pacheco, ed. *Revolución Energética en Chile*. Santiago: Universidad Diego Portales, pp. 579–584.

Bartra, A., 2006. *El capital en su laberinto: de la renta de la tierra a la renta de la vida*, México: UACM.

Bauer, C., 2015. Water conflicts and entrenched governance problems in Chile's market model. *Water Alternatives*, 8(2), pp.147–172.

Bauer, C.J., 1998. *Against the Current: Privatization, Water Markets, and the State in Chile*, Springer Science & Business Media.

Bauer, C.J., 2009. Dams and markets: Rivers and electric power in Chile. *Natural resources journal*, 49(3/4), pp.583–651.

Bauer, C.J., 2005. In the image of the market: the Chilean model of water resources management. *International Journal of Water*, 3(2), pp.146–165.

Bauer, C.J., 2004. Results of Chilean water markets: Empirical research since 1990. *Water resources research*, 40(9), p.17.

Beaudry, J.-S., 2009. La violencia policial hacia los mapuches en Chile. *Revista IIDH*, 49, pp.363–381.

Bengoa, J., 2000. *Historia del pueblo mapuche: siglos XIX y XX*, Santiago: Lom Ediciones.

Bernstein, H., 2010. *Class Dynamics of Agrarian Change*, Halifax and Winnipeg: Fernwood Publishing.

Bernstein, S. et al., 2013. *AGENDA PARA IMPULSAR LAS INVERSIONES EN GENERACION ELECTRICA DE BASE EN EL SIC*, Confederación de la Producción y el Comercio.

Bhattacharya, T., 2017. *Social Reproduction Theory: Remapping Class, Recentering Oppression*, London: Pluto Press.

Boccara, G., 1999. Etnogénesis Mapuche: Resistencia y Restructuración Entre Los Indígenas del Centro-Sur de Chile (Siglos XVI-XVIII). *The Hispanic American historical review*, 79(3), pp.425–461.

Boccara, G. & Bolados, P., 2010. ¿Qué es el multiculturalismo? La nueva cuestión étnica en el Chile neoliberal. *Revista de Indias*, 70(250), pp.651–690.

Bonefeld, W., 2014. *Critical Theory and the Critique of Political Economy: On Subversion and Negative Reason*, London and New York: Bloomsbury.

Bonefeld, W., 2010. Free economy and the strong state: Some notes on the state. *Capital & Class*, 34(1), pp.15–24.

Briscoe, J., 1996. WATER AS AN ECONOMIC GOOD: THE IDEA AND WHAT IT MEANS IN PRACTICE. In World Congress of the International Commission on Irrigation and Drainage. World Bank. Available at: http://jzjz.tripod.com/icid16.html [Accessed December 19, 2018].

Büchi, H., 1993. *La Transformación económica de Chile. Del Estatismo a la Libertad Económica*, Santafé de Bogotá: Norma.

Budds, J., 2009. Contested H2O: Science, policy and politics in water resources management in Chile. *Geoforum; journal of physical, human, and regional geosciences*, 40(3), pp.418–430.

Budds, J., 2004. POWER, NATURE AND NEOLIBERALISM: THE POLITICAL ECOLOGY OF WATER IN CHILE. *Singapore journal of tropical geography*, 25(3), pp.322–342.

Budds, J., 2018. Securing the market: Water security and the internal contradictions of Chile's Water Code. *Geoforum; journal of physical, human, and regional geosciences*. Available at: http://www.sciencedirect.com/science/article/pii/S0016718518302884.

Budds, J., 2013. Water, Power, and the Production of Neoliberalism in Chile, 1973–2005. *Environment and planning. D, Society & space*, 31(2), pp.301–318.

Bustos, J., Dufrey, A. & Tapia, G., 2018. Energía 2050: una política energética para Chile. In M. Pacheco, ed. *Revolución Energética en Chile*. Santiago: Universidad Diego Portales, pp. 331–382.

Caligaris, G., 2016. The Global Accumulation of Capital and Ground-Rent in "Resource Rich" Countries. In G. Charnock & G. Starosta, eds. *The New International Division of Labour: Global Transformation and Uneven Development*. London: Palgrave Macmillan UK, pp. 55–77.

Castree, N., 2015. Capitalism and the Marxist critique of political ecology. In T. Perreault, G. Bridge, & J. McCarthy, eds. *The Routledge Handbook of Political Ecology*. London: Routledge, pp. 279–292.

Castree, N., 2002. False antitheses? Marxism, nature and actor-networks. *Antipode*, 34(1), pp.111–146.

Castro Garrido, M. et al., 2016. *Los impactos en derechos humanos de los proyectos de inversión hidroeléctrica en el territorio Mapuche de la región de la Araucanía*, Observatorio de Derechos de los Pueblos Indígenas. Available at: http://cdn.biodiversidadla.org/content/download/128431/1004844/version/1/file/Los+Impactos+en+derechos+humanos+de+los+proyectos+de+inversi%C3%B3n+hidroel%C3%A9ctrica+en+el+territorio+Mapuche+de+la+regi%C3%B3n+de+La+Araucan%C3%ADa.pdf.

Centro de Ciencia del Clima y la Resiliencia, 2015. *Informe a la Nación. La megasequía 2010-2015: Una lección para el futuro*, Centro de Ciencia del Clima y la Resiliencia (CR)2.

CEPAL, 2014. Integración regional: hacia una estrategia de cadenas de valor inclusivas. *CEPAL review*. Available at: https://www.cepal.org/es/publicaciones/36733-integracion-regional-estrategia-cadenas-valor-inclusivas [Accessed November 8, 2018].

Chonchol, J., 1976. LA REFORMA AGRARIA EN CHILE (1964-1973). *El Trimestre Económico*, 43(171(3)), pp.599–623.

CIPER, 2017. Revelan millonarias inversiones del PS en empresas reguladas. *CIPER*. Available at: https://ciperchile.cl/radar/revelan-millonarias-inversiones-del-ps-en-empresas-reguladas/.

Clapp, R.A., 1993. *The forest at the end of the world: the transition from old-growth to*

plantation forestry in Chile. University of California, Berkeley.

Clarke, S. ed., 1991. *The State Debate*, London: Palgrave Macmillan.

Cleaver, H., 1992. The inversion of class perspective in Marxian theory: From valorisation to self-valorisation. In W. Bonefeld, R. Gunn, & K. Psychopedis, eds. *Open Marxism Vol 2*. London: Pluto Press, pp. 1992–1106.

Codeff, et. al., 2016. *Critica a la Hidroelectricidad en Chile y Propuestas Ciudadanas*,

Cohen, B. & Shenk, J., 2017. *An Inconvenient Sequel: Truth to Power*, Paramount Pictures.

Comisión Chilena de Derechos Humanos, 1999. *Nunca más en Chile: síntesis corregida y actualizada del informe Rettig*, Santiago: LOM Ediciones.

COMISIÓN EVALUACIÓN AMBIENTAL DE LOS PROYECTOS CARDONES-POLPAICO, Y "DOÑA ALICIA", DE CURACAUTÍN, 2016. *INFORME DE LA COMISIÓN ESPECIAL INVESTIGADORA*, Cámara de Diputados. Available at: https://www.camara.cl/pdf.aspx?prmTIPO=MANDATOSGRALDET&prmID=89966&prmTIPODOC=LOCAL&prmPERIODO=2014-2018.

Comisión Nacional de Energía, 2018. Capacidad Instalada. *Energía Abierta*. Available at: http://energiaabierta.cl/visualizaciones/capacidad-instalada/ [Accessed December 19, 2018].

Comisión Sexta, 2018. 300, Part I: A Plantation, a World, a War, Slim Chances. *Enlace Zapatista*. Available at: http://enlacezapatista.ezln.org.mx/2018/08/22/300-part-i-a-plantation-a-world-a-war-slim-chances-subcomandante-insurgente-moises-supgaleano/ [Accessed December 17, 2018].

COMISIÓN TRABAS A LA MATERIZALIZACIÓN DE PROYECTOS DE INVERSIÓN, 2016. *PRINCIPALES RAZONES INTERNAS DEL RETRASO EN GESTIÓN DE PROYECTOS DE INVERSIÓN MINEROS Y DE ENERGÍA ELÉCTRICA*, INSTITUTO DE INGENIEROS DE CHILE.

Consejo Minero, 2018. *Cifras actualizadas de la minería. Noviembre 2018*, Consejo Minero.

Corbo, V. & Hurtado, A., 2015. La macroeconomía del problema energético en Chile. In C. J. García, ed. *Economía y Energía. La experiencia chilena.* Santiago: Universidad Alberto Hurtado, pp. 51–74.

Correa, C. & Gross, M.R., 2008. Chinook salmon invade southern South America. *Biological invasions*, 10(5), pp.615–639.

Correa, M., Molina, R. & Yáñez, N., 2005. *La reforma agraria y las tierras mapuches: Chile 1962-1975*, Santiago: Lom ediciones.

Course, M., 2011. *Becoming Mapuche: Person and Ritual in Indigenous Chile*, University of Illinois Press.

Cuadra Montoya, X., 2012. Las trayectorias de la movilización contra Hidroaysén. El malestar es sobre lo político, la propuesta es democratizadora. *Anuario del Conflicto Social*, (2). Available at: http://revistes.ub.edu/index.php/ACS/article/download/6361/8117.

De Angelis, M., 2007. *The beginning of history: Value struggles and global capital*, London:

Pluto Press.

De Genova, N., 2013. “We are of the connections”: migration, methodological nationalism, and “militant research.” *Postcolonial Studies*, 16(3), pp.250–258.

Dirección General de Aguas, Estadísticas estaciones DGA. *Dirección General de Aguas*. Available at: http://www.dga.cl/servicioshidrometeorologicos/Paginas/default.aspx [Accessed December 20, 2018].

Dirección General de Relaciones Económicas Internacionales, Acuerdos de Libre Comercio. *Dirección General de Relaciones Económicas Internacionales*. Available at: https://www.direcon.gob.cl/preguntas-frecuentes/acuerdos-de-libre-comercio/ [Accessed December 19, 2018].

Dourojeanni, A. & Jouravlev, A., 1999. *El Código de Aguas de Chile: entre la ideología y la realidad*, CEPAL. Available at: http://hdl.handle.net/11362/31228 [Accessed December 20, 2018].

Echeverría, B., 2011. *Bolívar Echeverría: Crítica de la modernidad capitalista*, La Paz: Vicepresidencia del Estado Plurinacional de Bolivia.

Echeverría, B., 2014. “Use-value”: ontology and semiotics. *Radical Philosophy*, (188), pp.24–38.

Ekers, M. & Loftus, A., 2012. Revitalizing the production of nature thesis: A Gramscian turn? *Progress in human geography*, 37(2), pp.234–252.

El Mercurio, 2002. Gobierno presenta requerimiento de ley antiterrorista por Alto Biobío. *El Mercurio*. Available at: https://www.emol.com/noticias/nacional/2002/03/19/81200/gobierno-presenta-requerimiento-de-ley-antiterrorista-por-alto-biobio.html.

EMIS, 2016. *Chile Mining Sector 2016/2017*, EMIS.

ENDESA, 1993. *ENDESA: 50 años*, Chile: ENDESA.

Espinosa, P., 2016. Segregación socio-espacial en una urbe turística de elite: El caso de Pucón, Chile. *Revista Mad*, (34), pp.155–178.

Estévez, P., 2018. El nuevo lugar de Chile en el mapa energético internacional. In M. Pacheco, ed. *Revolución Energética en Chile*. Santiago: Universidad Diego Portales, pp. 235–258.

Feynman, R.P., 1969. What Is Science. *Physics Teacher*, 7(6), pp.313–320.

Foster, J.B., 2016. Marxism in the Anthropocene: Dialectical Rifts on the Left. *International Critical Thought*, 6(3), pp.393–421.

Frêne, C. & Núñez, M., 2010. Hacia un nuevo modelo forestal en Chile. *Revista Bosque Nativo*, (47), pp.25–35.

Fuentes, F., García, C.J. & Pinto, F., 2015. Energía y ciclo económico en la economía chilena. In C. J. García, ed. *Economía y Energía. La experiencia chilena.* Santiago: Universidad Alberto Hurtado, pp. 243–314.

Gárate Chateau, M., 2012. *La revolución capitalista de Chile (1973-2003)*, Santiago: Ediciones Universidad Alberto Hurtado.

Garreaud, R.D., 2018. Record-breaking climate anomalies lead to severe drought and environmental disruption in western Patagonia in 2016. *Climate Research*, 74(3), pp.217–229.

Garreaud, R.D. et al., 2017. The 2010–2015 megadrought in central Chile: impacts on regional hydroclimate and vegetation. *Hydrology and Earth System Sciences*, 21(12), pp.6307–6327.

Garretón, M., 1993. La Vía Chilena al socialismo, elementos para una definición. In M. Garretón & T. Moulian, eds. *La Unidad Popular y el conflicto político en Chile*. Santiago: Ediciones ChileAmérica CESOC and LOM Ediciones, pp. 184–192.

Gaudichaud, F., 2017. *Chile 1970-1973: Mil días que estremecieron al mundo*, LOM Ediciones.

González-Hidalgo, M., Fonk, M. & Toledo, G., 2013. Diversidad y biodiversidad como ejercicios de autonomía: alternativas locales ante el impacto de la industria forestal en Chile. *Ecología Política*, (46), pp.73–77.

González, M.E. et al., 2011. Climatic change and its potential impact on forest fire occurrence in south-central Chile (33º - 42º S). *Bosque (Valdivia)*, 32(3), pp.215–219.

Graeber, D., 2013. It is value that brings universes into being. *HAU: Journal of Ethnographic Theory*, 3(2), pp.219–243.

Graeber, D., 2015. *The Utopia of Rules: On Technology, Stupidity, and the Secret Joys of Bureaucracy*, Brooklyn; London: Melville House.

Graeber, D., 2001. *Toward An Anthropological Theory of Value: The False Coin of Our Own Dreams*, New York: Palgrave.

Graeber, D., 2007. Turning modes of production inside out or, Why capitalism is a transformation of slavery. In D. Graeber, ed. *Possibilities: Essays on hierarchy, rebellion and desire*. Oakland: AK Press, pp. 85–112.

Gudynas, E., 2012. Estado compensador y nuevos extractivismos. Las ambivalencias del progresismo sudamericano. *Nueva sociedad*, (237), pp.128–146.

Gudynas, E., 2017. Value, Growth, Development: South American Lessons for a New Ecopolitics. *Capitalism Nature Socialism*, pp.1–10.

Hallmann, C.A. et al., 2017. More than 75 percent decline over 27 years in total flying insect biomass in protected areas. *PloS one*, 12(10), p.e0185809.

Harvey, D., 2005. *A Brief History of Neoliberalism*, Oxford and New York: Oxford University Press.

Harvey, D., 2003. *The new imperialism*, New York: Oxford University Press.

Herrera, M., 2012. Presidente de Colbún: “Institucionalidad ambiental en Chile se ha visto superada.” *El Mercurio*. Available at: https://www.emol.com/noticias/economia/2012/09/12/560170/colbun-institucionalidad-ambiental-en-chile-se-ha-visto-superada-por-el-entorno.html.

Holloway, J., 2010a. *Change the World Without Taking Power: The Meaning of Revolution*

Today, London and New York: Pluto Press.

Holloway, J., 2010b. *Crack capitalism*, London and New York: Pluto Press.

Holloway, J., 1995. From Scream of Refusal to Scream of Power: The Centrality of Work. In W. Bonefeld, R. Gunn, & K. Psychopedis, eds. *Open Marxism Vol 3*. London: Pluto Press, pp. 155–181.

Holloway, J., 2011. No. Available at: http://www.johnholloway.com.mx/2011/07/30/no/ [Accessed December 17, 2018].

Holloway, J., Matamoros, F. & Tischler, S., 2009. Negativity and Revolution: Adorno and political activism. In J. Holloway, F. Matamoros, & S. Tischler, eds. *Negativity and Revolution: Adorno and Political Activism*. London: Pluto Press, pp. 3–11.

Holloway, J. & Picciotto, S., 1977. Capital, Crisis and the State. *Capital & Class*, 1(2), pp.76–101.

Huber, M., 2016. Resource geographies I: Valuing nature (or not). *Progress in human geography*, 42(1), pp.148–159.

Hulme, M., 2008. Geographical work at the boundaries of climate change: Boundary Crossings. *Transactions of the Institute of British Geographers*, 33(1), pp.5–11.

Huneeus, C., 2007. Argentina y Chile : el conflicto del gas, factores de política interna argentina. *Estudios Internacionales*, 40(158), pp.179–212.

IEA, 2009. *Chile Energy Policy Review 2009*, International Energy Agency.

IEA, 2018a. *Energy Policies Beyond IEA Counties: Chile*, International Energy Agency.

IEA, 2018b. *Global Energy & CO2 Status Report 2017*, International Energy Agency.

Illich, I., 1983. Silence is a Commons. *The Coevolution quarterly*, 40, pp.5–9.

Illich, I., 1980. Vernacular Values. *Philosophica*, 26(2), pp.47–102.

Ingold, T., 1993. The temporality of the landscape. *World archaeology*, 25(2), pp.152–174.

Instituto Nacional de Derechos Humanos, Mapa de Conflictos Socioambientales en Chile. *Instituto Nacional de Derechos Humanos*. Available at: https://mapaconflictos.indh.cl/ [Accessed December 19, 2018].

Inversiones Huife Ltda., 2018. *Declaración de Impacto Ambiental "Pequeña Central Hidroeléctrica Llancalil,"* Servicio de Evaluación Ambiental.

IPCC, 2018. *Global Warming of 1.5 °C*, Intergovernmental Panel on Climate Change.

Jarvis, L.S., 1992. The Unravelling of the Agrarian Reform. In C. Kay & P. Silva, eds. *Development and social change in the Chilean countryside: From the pre-land reform period to the democratic transition*. Amsterdam: CEDLA.

Kay, C., 2002. Chile's Neoliberal Agrarian Transformation and the Peasantry. *Journal of Agrarian Change*, 2(4), pp.464–501.

Kay, K. & Kenney-Lazar, M., 2017. Value in capitalist natures: An emerging framework.

Dialogues in Human Geography, 7(3), pp.295–309.

Kelly-Richards, S. et al., 2017. Governing the transition to renewable energy: A review of impacts and policy issues in the small hydropower boom. *Energy policy*, 101, pp.251–264.

Kelly-Richards, S., Valdés-Negroni, J. & Guerra-Schleef, F., 2017. *El Desarrollo de Centrales Hidroeléctricas en el Territorio de las Comunidades Mapuche-Williche de la Cuenca del Lago Ranco y Lago Maihue, Puelwillimapu*, Climate Assessment for the Southwest.

Kenney-Lazar, M. & Kay, K., 2017. Value in Capitalist Natures. *Capitalism Nature Socialism*, 28(1), pp.33–38.

Kibler, K.M. & Tullos, D.D., 2013. Cumulative biophysical impact of small and large hydropower development in Nu River, China. *Water resources research*, 49(6), pp.3104–3118.

Klein, N., 2015. *This Changes Everything: Capitalism Vs. The Climate*, New York: Simon and Schuster.

Klubock, T.M., 2014. *La Frontera: Forests and Ecological Conflict in Chile's Frontier Territory*, Duke University Press.

Klubock, T.M., 2006. The Politics of Forests and Forestry on Chile's Southern Frontier, 1880s-1940s. *The Hispanic American historical review*, 86(3), pp.535–570.

Lagarde, C., 2015. Ten myths about climate change policy. *Finance and Investment*, pp.64–67.

Landini, F., 2013. Asistencialismo y búsqueda de ayudas como estrategia de supervivencia en contextos campesinos clientelares. *Polis. Revista Latinoamericana*, (34). Available at: http://journals.openedition.org/polis/8823 [Accessed December 20, 2018].

Lara Cortés, C., 2016. The Global Crisis and the Chilean Economy. In J. E. Santarcángelo, O. Justo, & P. Cooney, eds. *Latin America after the Financial Crisis: Economic Ramifications from Heterodox Perspectives*. New York: Palgrave Macmillan US, pp. 117–140.

Larraín, S., 2010. Agua, Derechos Humanos, y Reglas de Mercado. In S. Larraín & P. Poo, eds. *Conflictos por el Agua en Chile. Entre los Derechos Humanos y las Reglas del Mercado*. Chile Sustentable, pp. 15–49.

Larraín, S., Liverona, F. & Orrego, J.P., 2016. Available at: https://issuu.com/psegura/docs/carta_a_ministro_pacheco.docx.

Larraín, S. & Poo, P. eds., 2010. *Conflictos por el Agua en Chile. Entre los Derechos Humanos y las Reglas del Mercado*, Chile Sustentable.

Leve, L., 2011. "Identity." *Current anthropology*, 52(4), pp.513–535.

Liberona, F., 2017. Hidroelectricidad. Posición del Consejo de Defensa de la Patagonia. Available at: http://www.terram.cl/descargar/naturaleza/agua/ppt_-_presentacion_power_point/PPT-Mesa-de-hidroelectricidad-Posicion-del-Consejo-de-Defensa-de-la-Patagonia.pdf.

Linton, J. & Budds, J., 2014. The hydrosocial cycle: Defining and mobilizing a relational-dialectical approach to water. *Geoforum; journal of physical, human, and regional geosciences*, 57, pp.170–180.

Lister, B.C. & Garcia, A., 2018. Climate-driven declines in arthropod abundance restructure a rainforest food web. *Proceedings of the National Academy of Sciences of the United States of America*, 115(44), pp.E10397–E10406.

Little, C. et al., 2009. Revealing the impact of forest exotic plantations on water yield in large scale watersheds in South-Central Chile. *Journal of Hydrology*, 374(1), pp.162–170.

Loftus, A., 2012. *Everyday Environmentalism: Creating an Urban Political Ecology*, Minneapolis and London: University of Minnesota Press.

Loftus, A., 2015. Political Ecology as Praxis. In T. Perrault, G. Bridge, & J. McCarthy, eds. *The Routledge Handbook of Political Ecology*. Routledge International Handbooks. Routledge, pp. 179–187.

Loftus, A., 2017. Political ecology I: Where is political ecology? *Progress in human geography*, p.0309132517734338.

Lohmann, L. & Hildyard, N., 2013. *Energy Alternatives: Surveying the Territory*, Dorset: The Corner House.

Lohmann, L. & Hildyard, N., 2014. *Energy, Work and Finance*, Dorset: The Corner House.

Londoño, E., 2017. Chile's Energy Transformation Is Powered by Wind, Sun and Volcanoes. *The New York Times*. Available at: https://www.nytimes.com/2017/08/12/world/americas/chile-green-energy-geothermal.html.

Maito, E.E., 2012. La Tasa de Ganancia en Chile (1986- 2009). In *Jornadas de Economía Crítica*. Jornadas de Economía Crítica. Available at: https://www.aacademica.org/esteban.maito/13.pdf?view.

Malm, A., 2016. *Fossil Capital. The Rise of Steam Power and the Roots of Global Warming*, London and New York: Verso Books.

Malm, A., 2018. *The Progress of This Storm: Nature and Society in a Warming World*, London: Verso.

Mapuexpress, 2015a. Gobierno y "Araucanía habla": 40 centrales hidroeléctricas y 100 minicentrales para la Región. *Mapuexpress*. Available at: http://www.mapuexpress.org/?p=6295.

Mapuexpress, 2015b. Ministerio de Energía, su Agenda 2050 y la transgresión de derechos indígenas. *Mapuexpress*. Available at: http://www.mapuexpress.org/?p=971.

Mapuexpress, RED DEFENSA TERRITORIOS. *Mapuexpress*. Available at: http://www.mapuexpress.org/?tag=red-defensa-territorios [Accessed October 20, 2018].

Martinez-Alier, J., 2009. Social Metabolism, Ecological Distribution Conflicts, and Languages of Valuation. *Capitalism Nature Socialism*, 20(1), pp.58–87.

Martínez, P., 2014. La construcción social de los territorios turísticos. El caso de Pucón en la región de la Araucanía, Chile. *Revista Geográfica del Sur*, 5(7), pp.63–76.

Marx, K., 1991. *Capital: A Critique of Political Economy, Volume 3*, London: Penguin.

Marx, K., 1990. *Capital: A Critique of Political Economy, Volume I*, London: Penguin.

Marx, K., 1965. *Pre-Capitalist Economic Formations* E. J. Hobsbawm, ed., New York: International Publishers.

Marx, K., 2002. Theses on Feuerbach. Available at: https://www.marxists.org/archive/marx/works/1845/theses/theses.htm [Accessed December 18, 2018].

McPhee, J., 2018. Hydrological Setting. In G. Donoso, ed. *Water Policy in Chile*. Cham: Springer International Publishing, pp. 13–23.

Millalen, J., 2006. La sociedad mapuche prehispanica: Kimun, arqueologia, y etnohistoria. In P. Mariman et al., eds. *--Escucha, winka--!: cuatro ensayos de Historia Nacional Mapuche y un epílogo sobre el futuro.* Santiago: Lom Ediciones.

Ministerio de Energía, 2016. *Análisis de las condicionantes para el desarrollo hidroeléctrico en las cuencas del Maule, Biobío, Toltén, Valdivia, Bueno, Yelcho y Puelo, desde el potencial degeneración a las dinámicas socio-ambientales. Grupo de cuencas 1: Maule, Biobío y Toltén*, Ministerio de Energía.

Ministerio de Energía, 2017. *Capítulo Indígena de la Política Energética 2050*, Santiago: Ministerio de Energía. Available at: http://www.energia.gob.cl/sites/default/files/capitulo-de-pertinencia-indigena-de-la-politica-energetica-nacional.pdf.

Ministerio de Energía, 2015. *Energía 2050*, Ministerio de Energía.

Ministerio de Energía, 2014. *Energy Agenda. A challenge for the country, progress for everyone*, Ministerio de Energía.

Ministerio de Energía, 2018. *Proceso de Planificación Energética de Largo Plazo*, Ministerio de Energía.

Miroff, N., 2017. While Trump promotes coal other countries are turning to cheap sun power. *Washington Post*. Available at: https://www.washingtonpost.com/sf/world/2017/03/31/while-trump-promotes-coal-other-countries-are-turning-to-cheap-sun-power/.

Monckeberg, M.O., 2015. *El saqueo de los grupos economicos al estado de Chile*, Penguin Random House Grupo Editorial Chile.

Moniz, E., 2018. Prólogo, Chile, un ejemplo mundial. In M. Pacheco, ed. *Revolución Energética en Chile*. Santiago: Universidad Diego Portales, pp. 11–14.

Moore, J.W., 2014. Capitalism as Frontier: On the Nature and Value of “Socially Necessary” Unpaid Work. Available at: https://jasonwmoore.wordpress.com/2014/04/16/capitalism-as-frontier-on-the-nature-and-value-of-socially-necessary-unpaid-work/ [Accessed December 17, 2018].

Moore, J.W., 2015. *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*, London and New York: Verso.

Moore, J.W., 2017a. Metabolic rift or metabolic shift? dialectics, nature, and the world-

historical method. *Theory and society*, 46(4), pp.285–318.

Moore, J.W., 2017b. The Capitalocene Part II: accumulation by appropriation and the centrality of unpaid work/energy. *The Journal of peasant studies*, 45(2), pp.237–279.

Moore, J.W., 2017c. Value in the web of life, or, Why world history matters to geography. *Dialogues in Human Geography*, 7(3), pp.326–330.

Mundaca, R., 2014. *La Privatización de las Aguas en Chile*, Santiago: América en Movimiento.

Namuncura, D., 1999. *Ralco: ¿represa o pobreza?*, Santiago: LOM.

Navarro Mena, A., Sequía en la Araucanía. *Sequía en la Araucanía*. Available at: https://www.sequiaenlaaraucania.cl/ [Accessed December 20, 2018].

Neira, E., Verscheure, H. & Revenga, C., 2002. *Chile's Frontier Forests: Conserving a Global Treasure*, Washington: Global Forest Watch, World Resources Institute.

Newton, A.C., 2007. Introduction. In A. C. Newton, ed. *Biodiversity loss and conservation in fragmented forest landscapes: the forests of montane Mexico and temperate South America.* Cambridge, MA; Oxfordshire: CABI.

Notes From Below, 2018. The Workers' Inquiry and Social Composition. *Notes From Below*, (1). Available at: https://notesfrombelow.org/article/workers-inquiry-and-social-composition.

Núñez, D., 2018. Impulso a la inversión. In M. Pacheco, ed. *Revolución Energética en Chile*. Santiago: Universidad Diego Portales, pp. 481–506.

OLCA, 2016. *"AguAnte la Vida: con las manos de la terra enfrentamos el extractivismo". MEMORIA ENCUENTRO AGUANTE LA VIDA 2015*, OLCA.

Orellana, M.A., 2005. Indigenous Peoples, Energy and Environmental Justice: The Pangue/Ralco Hydroelectric Project in Chile's Alto BíoBío. *Journal of Energy & Natural Resources Law*, 23(4), pp.511–528.

Osses, S., 2013. Encuentran muerta a dirigente pehuenche Nicolasa Quintreman en aguas del lago Ralco. *Radio Bio-Bio*. Available at: https://www.biobiochile.cl/noticias/2013/12/24/dirigente-pehuenche-nicolasa-quintreman-aparece-muerta-en-aguas-del-lago-ralco.shtml.

Pacheco, M., 2018. Se levanta la sesión. In M. Pacheco, ed. *Revolución Energética en Chile*. Santiago: Universidad Diego Portales, pp. 553–578.

Pairicán, F., 2014. *Malón. La rebelión del movimiento mapuche. 1990-2013*, Santiago: Pehuén Editores.

Palma, R. & Pacheco, M., 2018. Chile: Capital del Sol. In M. Pacheco, ed. *Revolución Energética en Chile*. Santiago: Universidad Diego Portales, pp. 539–552.

Paúl, F., 2015. Ejecutivo busca que empresas de la IX Región donen parte de sus ganancias a un fondo de desarrollo. *El Mercurio*. Available at: http://diario.elmercurio.com/2015/12/11/nacional/nacional/noticias/033d7bb4-c718-4f20-9e23-3144e02c112a.htm.

Pérez-Cueto, C. & Astudillo, A., 2013. El impacto económico de los altos costos de la energía.

La Tercera. Available at: https://www.latercera.com/noticia/el-impacto-economico-de-los-altos-costos-de-la-energia/.

Phillips, M., 2004. Other geographies of gentrification. *Progress in human geography*, 28(1), pp.5–30.

Phillips, M., 1993. Rural gentrification and the processes of class colonisation. *Journal of rural studies*, 9(2), pp.123–140.

Phillips, M., 2005. Rural gentrification and the production of nature: a case study from Middle England. In *4th International Conference of Critical Geographers, Mexico City.* researchgate.net. Available at: https://www.researchgate.net/profile/Martin_Phillips/publication/239924790_Rural_Gentrification_and_the_Production_of_Nature_A_Case_Study_from_Middle_England/links/58c05ba2aca2720944fd930d/Rural-Gentrification-and-the-Production-of-Nature-A-Case-Study-from-Middle-England.pdf.

Phillips, M. & Smith, D.P., 2018. Comparative approaches to gentrification: Lessons from the rural. *Dialogues in human geography*, 8(1), pp.3–25.

Polanyi, K., 2001. *The Great Transformation: The Political and Economic Origins of Our Time*, Boston: Beacon Press.

Postone, M., 1993. *Time, Labor, and Social Domination: A Reinterpretation of Marx's Critical Theory*, New York: Cambridge University Press.

Prieto, M., 2016. Bringing water markets down to Chile's Atacama Desert. *Water International*, 41(2), pp.191–212.

Prieto, M. & Bauer, C., 2012. Hydroelectric power generation in Chile: an institutional critique of the neutrality of market mechanisms. *Water International*, 37(2), pp.131–146.

Pulido, L., 2017. Geographies of race and ethnicity II: Environmental racism, racial capitalism and state-sanctioned violence. *Progress in human geography*, 41(4), pp.524–533.

Ramírez, P., 2015. Platas negras de SQM: el pulpo que puso sus tentáculos en todos los sectores políticos. *CIPER Chile*. Available at: https://ciperchile.cl/2015/09/07/platas-negras-de-sqm-el-pulpo-que-puso-sus-tentaculos-en-todos-los-sectores-politicos/ [Accessed December 18, 2018].

Rebolledo, A., 2018. CHILE AND THE SOLAR REVOLUTION. In S. Dutta, B. Lanvin, & S. Wunsch-Vincent, eds. *GLOBAL INNOVATION INDEX 2018 Energizing the World with Innovation*. Ithaca, Fontainebleau, and Geneva: Cornell University, INSEAD, and the World Intellectual Property Organization, pp. 159–166.

Red en Defensa de los Territorios, 2016. Available at: https://www.camara.cl/pdf.aspx?prmID=46549&prmTIPO=DOCUMENTOCOMISION.

Revista Electricidad, 2016. Hidroelectricidad: Oportunidades y desafíos. *Revista Electricidad*, (197), pp.4–9.

Reyes Herrera, S. & Rodríguez Torrent, J.C., 2015. Proyecto Hidroaysén: capitalismo extractivista, regulación estatal y acción colectiva en la Patagonia. *Polis. Revista Latinoamericana*, (40). Available at: http://journals.openedition.org/polis/10819

[Accessed December 19, 2018].

Romero, H. & Sasso, J., 2014. Proyectos hídricos y ecología política del desarrollo en Latinoamérica: Hacia un marco analítico. *Revista europea de estudios latinoamericanos y del Caribe = European review of Latin American and Caribbean studies*, (97), pp.55–74.

Romero Toledo, H., 2014. Ecología política y represas: elementos para el análisis del Proyecto HidroAysén en la Patagonia chilena. *Revista de Geografía Norte Grande*, (57), pp.161–175.

Roy, A., 1999. The greater common good. *Outlook India*. Available at: https://www.outlookindia.com/magazine/story/the-greater-common-good/207509.

Rubio, B., 2001. *Explotados y Excluidos. Los campesinos latinoamericanos en la fase agroexportadora neoliberal*, México: Plaza y Valdés-Universidad Autónoma de Chapingo.

Rudnick, H. et al., 2014. Restless Waters: Fossil Fuel Emissions Conditioning a Reduction in Hydroelectric Resources in Chile. *IEEE Power and Energy Magazine*, 12(5), pp.50–60.

Rudnick, H. & Palma, R., 2018. Contexto nacional e internacional en marzo 2014. In M. Pacheco, ed. *Revolución Energética en Chile*. Santiago: Universidad Diego Portales, pp. 19–40.

Ruiz Encina, C., 2015. *De nuevo la sociedad*, LOM Ediciones.

Sáenz De Sicilia, A. & Brito Rojas, S., 2014. Introduction to Bolívar Echeverría. *Radical Philosophy*, (188), pp.20–23.

Sahlins, M., 2013. On the culture of material value and the cosmography of riches. *HAU: Journal of Ethnographic Theory*, 3(2), pp.161–195.

Sahlins, M., 2017. The atemporal dimensions of history: In the old Kongo kingdom, for example. In D. Graeber & M. Sahlins, eds. *On Kings*. Chicago: HAU Books, pp. 139–222.

Saito, K., 2017. *Karl Marx's Ecosocialism: Capital, Nature, and the Unfinished Critique of Political Economy*, New York: Monthly Review Press.

Schmidt, A., 2014. *The Concept of Nature in Marx*, London and New York: Verso.

Scott, J.C., 2009. *An Anarchist History of Upland Southeast Asia*, Yale University Press.

Scott, J.C., 1990. *Domination and the Arts of Resistance: Hidden Transcripts*, Yale University Press.

Scott, J.C., 1998. *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, New Haven: Yale University Press.

Scott, J.C., 1985. *Weapons of the Weak: Everyday Forms of Peasant Resistance*, New Haven: Yale University Press.

SEREMI-Araucanía, 2017. *Diagnóstico Energético Regional del Plan Energético Regional Araucanía (PER Araucanía) – Etapa I*, Secretaría Regional Ministerial de Energía.

Silva, O., 1992. El mestizaje en el "reyno de Chile." *Senri ethnological studies*, 33, pp.114–132.

Smith, N., 2009. Nature as Accumulation Strategy. *Socialist Register*, 43(43). Available at:

http://www.socialistregister.com/index.php/srv/article/view/5856 [Accessed March 8, 2018].

Smith, N., 1998. Nature at the millenium: production and reenchantment. In B. Braun & N. Castree, eds. *Remaking Reality: Nature at the Millenium*. London: Routledge, pp. 269–282.

Smith, N., 2008. *Uneven Development: Nature, Capital, and the Production of Space*, Athens and London: University of Georgia Press.

Stern, N. et al., 2006. *Stern Review: The economics of climate change*, HM treasury London.

Sturla Zerene, G. et al., 2018. La riqueza regalada a la gran minería del cobre en Chile: nuevas estimaciones, 2005-2014. *Revista CEPAL*, (124), pp.107–129.

Susskind, L. et al., 2014. The Future of Hydropower in Chile. *Journal of Energy & Natural Resources Law*, 32(4), pp.425–481.

Svampa, M., 2012. Consenso de los commodities, giro ecoterritorial y pensamiento crítico en América Latina. *osal*, 13(32), pp.15–38.

Swyngedouw, E., 2011. Depoliticized Environments: The End of Nature, Climate Change and the Post-Political Condition. *Royal Institute of Philosophy Supplements*, 69, pp.253–274.

Swyngedouw, E., 2015. *Liquid Power: Contested Hydro-Modernities in Twentieth-Century Spain*, Cambridge and London: MIT Press.

Tele13, 2017. El misterio de la sequía en el lago Caburga. *Tele13.cl*. Available at: http://www.t13.cl/videos/nacional/video-misterio-sequia-lago-caburga [Accessed December 20, 2018].

The New York Times, 2011. Keep Chilean Patagonia Wild. *The New York Times*. Available at: https://www.nytimes.com/2011/05/24/opinion/24tue3.html.

Thobani, M., 1995. *Tradable property rights to water : how to improve water use and resolve water conflicts*, The World Bank. Available at: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP// [Accessed December 20, 2018].

Thompson, E.P., 1993. *Customs in common: Studies in traditional popular culture*, London: Penguin Books.

Thompson, E.P., 1963. *The making of the British working class*, New York: Vintage.

Thompson, E.P., 1971. The Moral Economy of the English Crowd in the Eighteenth Century. *Past & present*, (50), pp.76–136.

Thompson, E.P., 1967. Time, work-discipline, and industrial capitalism. *Past & present*, 38(1), pp.56–97.

Turner, T., 2008. Marxian value theory: An anthropological perspective. *Anthropological Theory*, 8(1), pp.43–56.

Turner, T., 1984. Production, Value and Exploitation in Marx and in Non-Capitalist Systems of Social Production.

Turner, T., 2003. The beautiful and the common: inequalities of value and revolving hierarchy among the Kayapó. *Tipití: Journal of the Society for the Anthropology of Lowland South America*, 1(1), pp.11–26.

Turner, T., 2004. The Transformation of Marx's Concept of Commodity Value to the Value of Social Products in Non-Commodity Producing Societies. In *Marxian Horizons: Critical Social Theory for the 21st Century*. Ithaca, NY: Cornell University.

UFRO Medios, 2018. Comisión de Evaluación Ambiental de La Araucanía rechaza proyecto hidroeléctrico "El Rincón" en Melipeuco. *UFRO Medios*. Available at: http://www.ufromedios.cl/comision-de-evaluacion-ambiental-de-la-araucania-rechaza-proyecto-hidroelectrico-el-rincon-en-melipeuco/.

Wainwright, J. & Mann, G., 2018. *Climate Leviathan: A Political Theory of Our Planetary Future*, London & New York: Verso.

Webber, J.R., 2014. 13 Revolution against "Progress": Neo-Extractivism, the Compensatory State, and the tipnis Conflict in Bolivia. In J. R. Webber & S. Spronk, eds. *Crisis and Contradiction*. Brill, pp. 302–333.

Webber, J.R., 2017. *The Last Day of Oppression, and the First Day of the Same: The Politics and Economics of the New Latin American Left*, London: Pluto Press.

Wilcox, K., 1996. *Chile's native forests: a conservation legacy*, Redway, CA: Ancient Forest International.

Winn, P., 2004. The Pinochet Era. In P. Winn, ed. *Victims of the Chilean miracle: Workers and neoliberalism in the Pinochet era, 1973-2002*. Durham: Duke University Press, pp. 14–70.

Worster, D., 1992. *Rivers of Empire: Water, Aridity, and the Growth of the American West*, Oxford University Press.

Zibechi, R., 2012a. A New Chile is Possible. *Counterpunch*. Available at: https://www.counterpunch.org/2012/01/27/a-new-chile-is-possible/.

Zibechi, R., 2006. IIRSA: la integración a la medida de los mercados. *ecología política*, 31 , pp.19–26.

Zibechi, R., 2012b. Latin America: A New Cycle of Social Struggles. *NACLA*. Available at: https://nacla.org/article/latin-america-new-cycle-social-struggles.

Zunino, H. & Hidalgo, R., 2010. En busca de la utopía verde: migrantes de amenidad en la comuna de pucón, IX Región de La Araucanía, Chile. *Scripta Nova, Revista Electrónica de Geografía y Ciencias Sociales*, 14(331), p.75.